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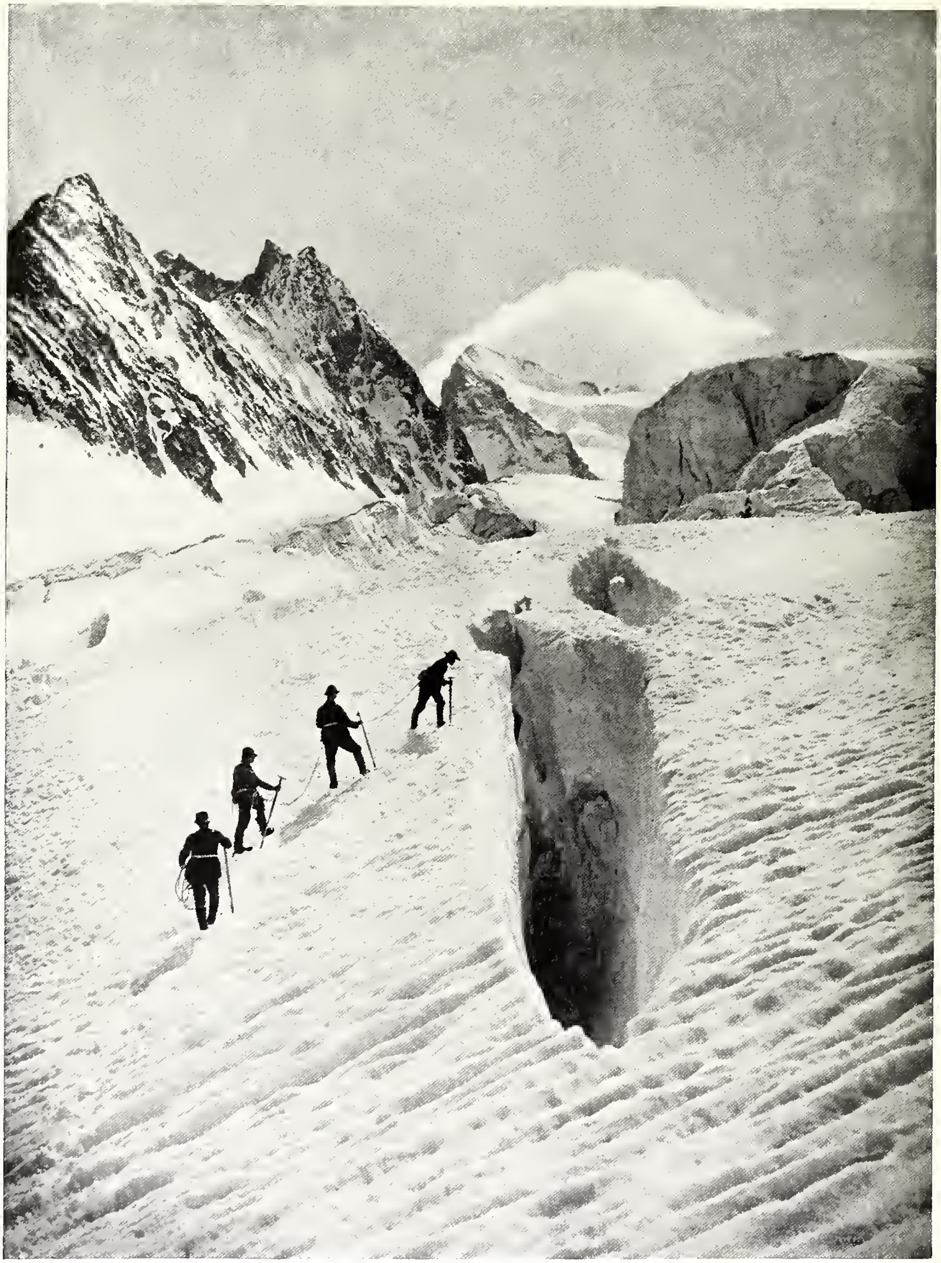


VITTORIO SELLA
CREVASSES OF GLACIER BLANC
GRAND SIGNE AND LES ECRINS — ALPS OF DAUPHINY

PHOTO - ERA
The American Journal of Photography

VOL. XVIII JANUARY, 1907 NO. 1

VITTORIO SELLA

CHARLES E. FAY,
President of the American Alpine Club

IT is no chance circumstance that the name of Vittorio Sella stands at the head of the legion of photographers who have made the mountain in all its phases the difficult subject of their labors. He comes by good right to this primacy — by grace, in part, of heredity; in larger part by virtue of intelligent, persistent work. His father, Venanzio, the founder of a leading industry of his home city, Biella — beautifully situated in a valley of Novara at the base of the Alps — was also a man of scientific mind, to whom the art of photography, then in its infancy, made a special appeal. As early as 1858 there appeared from his pen a notable article on the subject, which was translated into French and German and was later incorporated into the Encyclopedia of Roret. Vittorio's uncle was the noted Italian statesman, Quintino Sella, a man almost idolized by his compatriots, the type of a noble democracy, the patron saint of Alpinism, and at the time of his death president of the Italian Alpine Club. This noblest of sports was his chief recreation from his exhausting labors for the State. On these excursions his young nephews bore a part, Vittorio being but fifteen when he made with him his own first ascent, and thus began the long series of adventurous climbs which have familiarized him with the grandeur of the high summits in every zone. In his earlier ones the primitive camera of his father served him in his photographic work, giving place from year to year to more perfect instruments and ever-improving devices.

Born in 1859, he is now forty-seven years of age. Closing his school-life at eighteen, he entered the army for the usual term of service, from which he returned to take the headship of the great woolen industry, become vacant by the death of his father. Henceforth his art was to be pursued only in such vacations as he could snatch from business; but no man knew better than he what the French call *la science des moments perdus.* He seems to have had no wasted moments, but to have known how to fill all to the best advantage. Thus, in 1887, in a period of two weeks, he made seven high ascents in the Swiss Alps, including several of the most difficult peaks. The following year, in a similar forced march, he secured his superb array of views of the Alps of Dauphiny. In 1889 and 1890 he made two visits to the Caucasus, with equally notable results. By this time his photographic work formed a large and unparalleled collection.

In 1893 he exhibited in competition at the Geographical Congress at Turin an extensive series (some four hundred and fifty in number), to which was awarded the first gold medal and diploma of honor. It was these pictures which soon afterwards were brought to Boston for exhibition by the Appalachian Mountain Club, and which shortly were purchased and became the Club's well-known "Sella Collection."

In 1897, as a companion of the Duke of the Abruzzi, he visited Alaska, ascending with the party to the virgin summit of Mt. Saint Elias. As regards photographic results, this was the least satisfactory of his campaigns, the excessive dampness, in spite of every precaution, seriously injuring all his larger plates. It was doubtless this experience which led him to abandon his larger camera (12 x 15 inches), and depend upon the successful enlargement of smaller plates. Such are the superb pictures obtained in his next distant journey, which he made in 1900 with Messrs. Freshfield and Garwood of the English Alpine Club. The lofty Himalayas were the goal, and it was hoped that the party might reach at least one of those sublime summits. A phenomenally heavy snowfall thwarted this plan, but, in compensation, perfectly cleared the atmosphere and secured for Sella incomparable conditions for his work. The party made the circuit of Mt. Kunchinjinga — the first Europeans to accomplish this notable excursion. The series of views thus obtained is perhaps the most notable of all his work. The enlargements are marvels of detail and definition; the scenes, the grandest our globe has to offer. Incomparably grand is his panorama from the northwest of that great mountain, showing it and its retinue of mighty peaks and five vast glaciers descending the wild ravines. A passing cloud lightly hangs as a veil upon one of the peaks.

After this journey to India field-work had a rest for a few years, but the photographic laboratory at Biella was not idle, Sella's assistants being employed in supplying the demand for his pictures. The master himself was now engaged, in moments taken from business cares, in a new enterprise, on the island of Sardinia, no other than the reclaiming to culture of a large tract of land which had relapsed into wildness. It is a comment upon Sella's wide reading that the methods employed were those developed in the United States; and upon his appreciation of his parental duties, that his motive was "to secure a noble and useful employment" for his young sons. This interest has absorbed much of his time and effort for the past few years. But last summer he was again invited by his royal friend, the Duke of the Abruzzi, to accompany him on a far journey: this time to attack the still unconquered peaks of Mt. Ruwenzori in Equatorial Africa. Like all previous expeditions of that intrepid young explorer, this also was crowned with success, and doubtless an equally brilliant success was at the same time attained by Sella. Some of the results will soon be on view in this country, and an exhibition of unusual interest is likely to be made during the coming winter, affording an opportunity to enjoy an extensive series of lantern-views made in the Biella laboratory from the most striking of Sella's photographs among many mountain ranges from Saint Elias to Ruwenzori.

LOUIS J. CHRISTIE SURFACE OF GLACIER

THE HALLETT GLACIER ON THE MUMMY RANGE

LOUIS J. CHRISTIE

IN several of the articles written in the past year on the glaciers of the Rocky Mountains, it was noticeable that the discussion was, for the most part, scientific; and that the details and methods of approach were left out as too insignificant to occupy space where long names and unheard-of theories could be advanced.

That lack prompted me to try to show you the other side with my own trip to a glacier. Truthfully, I could not give a good definition of the one I saw, it was so totally different from anything else I had ever seen — so strange and wonderful that I am even at a loss for words that can justify it.

In Colorado there are two recognized glaciers; the Hallett Glacier, on the side of Hague's Peak, on the Mummy Range, and the Arapahoe Glacier, in the centre of the Arapahoe Peaks. It is of the former that I write.

About seventy-five miles north of Denver, in the heart of the Rockies in Estes Park, there is a beautiful little valley hemmed in by ranges of high mountains: Mt. Olympus and the Twin Sisters on one side, both rising above ten thousand feet; on another side a group with Long's Peak in the centre, 14,276 feet high; on another, the Front or Snowy Range of the Rockies; and, lastly, the Mummy Range.

It was from the middle of this valley that a party of three of us started, very early one bright September morning, with our horses packed with blankets and

LOUIS J. CHRISTIE   LOWER END OF LARGE CREVASSE

with "grub" for several days. We followed the road from the ranch down across the Big Thompson River, past foothills that would have a grand name and the prefix "Mt." if they could only have been set up in the East, until we struck the trail leading up Black Cañon towards the Mummy Range.

Along two high ridges, probably moraines from ancient glaciers, sometimes on top of one, then on the other, our horses plodded along until noon, when we had reached an altitude of about ten thousand feet. We ate our lunch quietly by the side of the bubbling mountain-stream while it dashed over boulders and fallen timber on its way to the Atlantic some thousands of miles away, asserting

LOUIS J. CHRISTIE LARGE CREVASSE FROM OUTSIDE

its importance, it seemed, by the amount of noise it made. After an hour's rest we put the saddles and packs on again and started. We traced the stream up nearly to its source, either making our own trails or following those the mountain sheep and deer had made. Although we saw no wild animals, they had left their hoof-prints in the gravel only a short time before. Then, finally, about five o'clock, we came out into the open, with the peculiar top of Mummy Mountain standing out before us, golden in the sunlight, against a background of dark blue. Around the side of Mummy ran the trail which terminated at Lawn Lake, only a few feet below Timberline, our camping-place.

After unpacking the horses, we wandered around for a short time, studying the lay of the land and watching the clouds go drifting over the sun, just setting; then we set about to roast a few slices of bacon and toast the bread for our supper. Our camp was between two large boulders, the trees at Timberline on one side and snow on the other, with Mother Earth underneath and that beautiful "wide and starry sky" above.

It was cold throughout the night, and the fire we had, although it blazed with great vigor, helped along occasionally by large, dry trees, was inadequate. I distinctly remember getting up several times to feed more trees to it (the others did so, too, but they would n't admit it).

Along about four o'clock, before it was light enough to see about without stretching our eyes, Mills sang out to get up; we scrambled to our feet, blinked our eyes and, I am glad to say, omitted the "rush to a cool stream for a morning's plunge." A few more slices of bacon and a hot can of beans apiece served for our breakfast—and a mighty good one it was, too; in fact, I can't remember ever having any other breakfast that could quite come up to that one.

Then the sun came out on the top of old Mummy, and as the reflection gradually sank down lower it grew lighter, so at about five we started up the last stretch—to cross the range. The horses served for a short distance, but when the rocks grew larger and more irregular they were left behind and we took the rest on foot. Every once in a while we stopped, out of breath, rather like the dog whose breath came in short pants; then it seemed we were just as far from the top as we ever were; sometimes it looked farther. About half way up we saw some snow-white Ptarmigan flying around among the boulders, and we had the pleasure of chasing them — but we went on empty-handed; their lungs beat ours.

Towards noon the sun came down hotter and hotter, and our lips became parched; but when we came to the top, little inconveniences like that were dropped as we looked over at the wonderful view before us on the other side. About a mile away, and a few hundred feet below, lay the long, narrow body of the glacier. As I said before, words could n't justify it; we just stood there and looked. It seemed impossible. Then we started to descend. It was short work getting down to it, and when we saw it was ice, all ice, dirty and covered with chips of rock but still ice, a feeling of awe came over us. It took a brave heart to first step out upon it.

The others took the straight route across and climbed along on the cold, bare ice towards the top, not taking any chances of falling through where the snow had made soft bridges across the deep, dark chasms underneath. Shortly before, I had left them to take some pictures, but I caught up with them before they came to the top and there, together, we viewed the panorama on the other side.

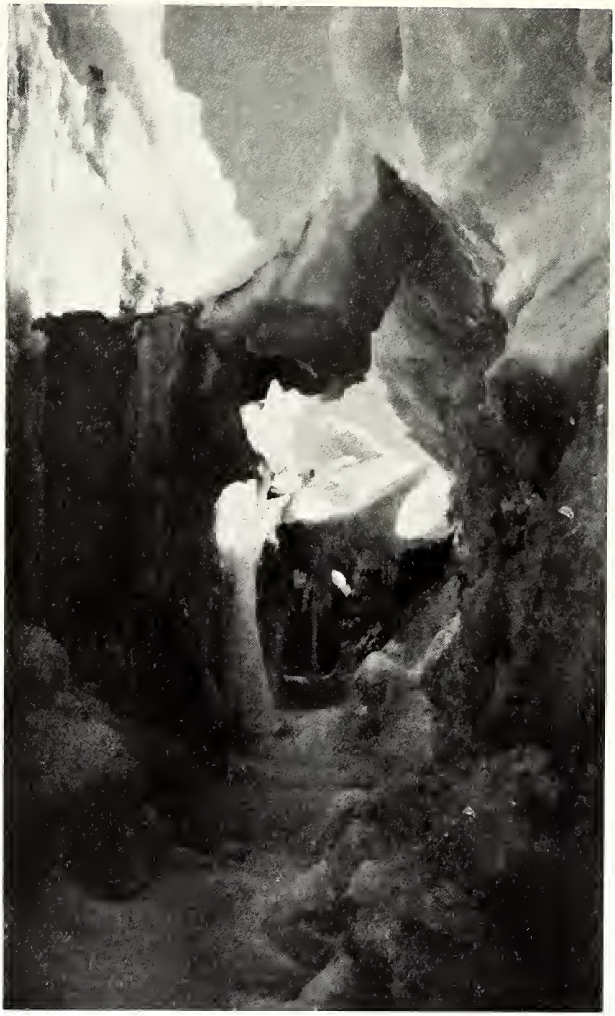
The four separate ranges that lay to the north — the Medicine Bow, Laramie, Rabbit's Ear and Poudre — stood out across the wide valley of the Poudre in a remarkably fine perspective. It seemed to us almost as if we were

LOUIS J. CHRISTIE HALLETT GLACIER FROM THE SIDE OF MUMMY

looking at a painting, but the artist who could paint that picture would never need to paint another.

Roped together, we crawled over the ridge down to the lower part of the ice, and gradually worked our way down about a quarter of a mile to the first series of crevasses. These were only partly uncovered, and it was with great difficulty that we could get near enough to look down. The true dark green color of the ice was put forth quite differently from the pure white of that on top, in the glare of the sun, and the yawning chasm seemed fairly aching for some

LOUIS J. CHRISTIE MIDDLE SECTION OF GLACIER



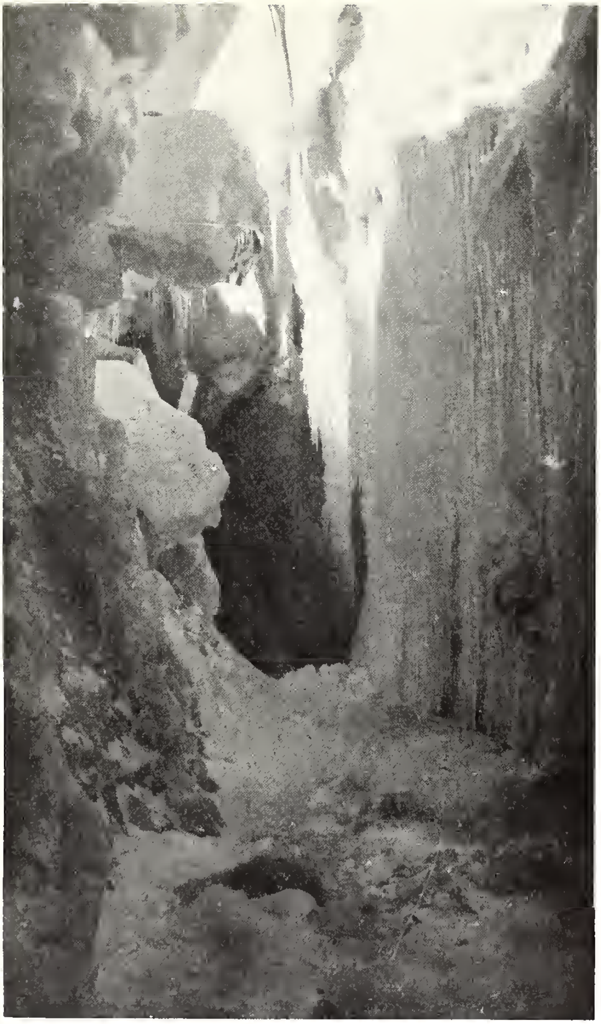
LOUIS J. CHRISTIE

INTERIOR OF CREVASSE
30 FEET BELOW SURFACE

one to fall in; but nobody wanted to at that particular time, so we moved on to the second series, the largest on the glacier.

In this series, there were three distinct gaps, the largest about a hundred and fifty feet long and forty wide (Goodness knows how deep!) and as cold as any cold-storage plant ever made. We made preparations to let one down; and although there were two strong men at the end of the rope, it seemed a hazardous task to let any human being brave the unknown dangers a place like that might contain.

Mills, being the true mountaineer of the three, was the first to descend, and



LOUIS J. CHRISTIE — UPPER END OF CREVASSE 40 FEET BELOW SURFACE

after having the rope tied securely about his waist he crawled over the edge, while we let out the rope inch by inch until he was standing on the thin ledge of ice, forty feet below the surface. It was necessary to keep a slight pull on the rope to prevent his breaking through, as the ledge was only the formation from the drippings above. After rummaging around for a short time, he gave the signal to pull. When he came to the edge, to show our joy that nothing had happened, we gave an extra yank, which sent poor Mills sliding for several yards along the surface, and it almost broke him in two.

With a rather scared feeling I went down in my turn, expecting at any moment to have the rope break or that the ice would give way and let me go hurling down into the deep chasm below; but I stopped in safety on the ledge at the bottom, full of wonder and admiration for the beautiful shapes and figures the sun and meltings had carved in the overhangings of snow-white ice. Everything had a fringe of icicles hanging to it, and they looked like sparkling silver in the sunlight above, as crystals on chandeliers in a brilliantly lighted ballroom. Every second or two an icicle would fall with a crash, and it was necessary to walk around carefully or be hit.

At the end of the crevasse, a huge pile of snow rose out over the top and in the glare of the sun made as beautiful a picture of light and shade as Nature could paint. It was a great regret to me that it did not show more clearly in the photograph I took of it.

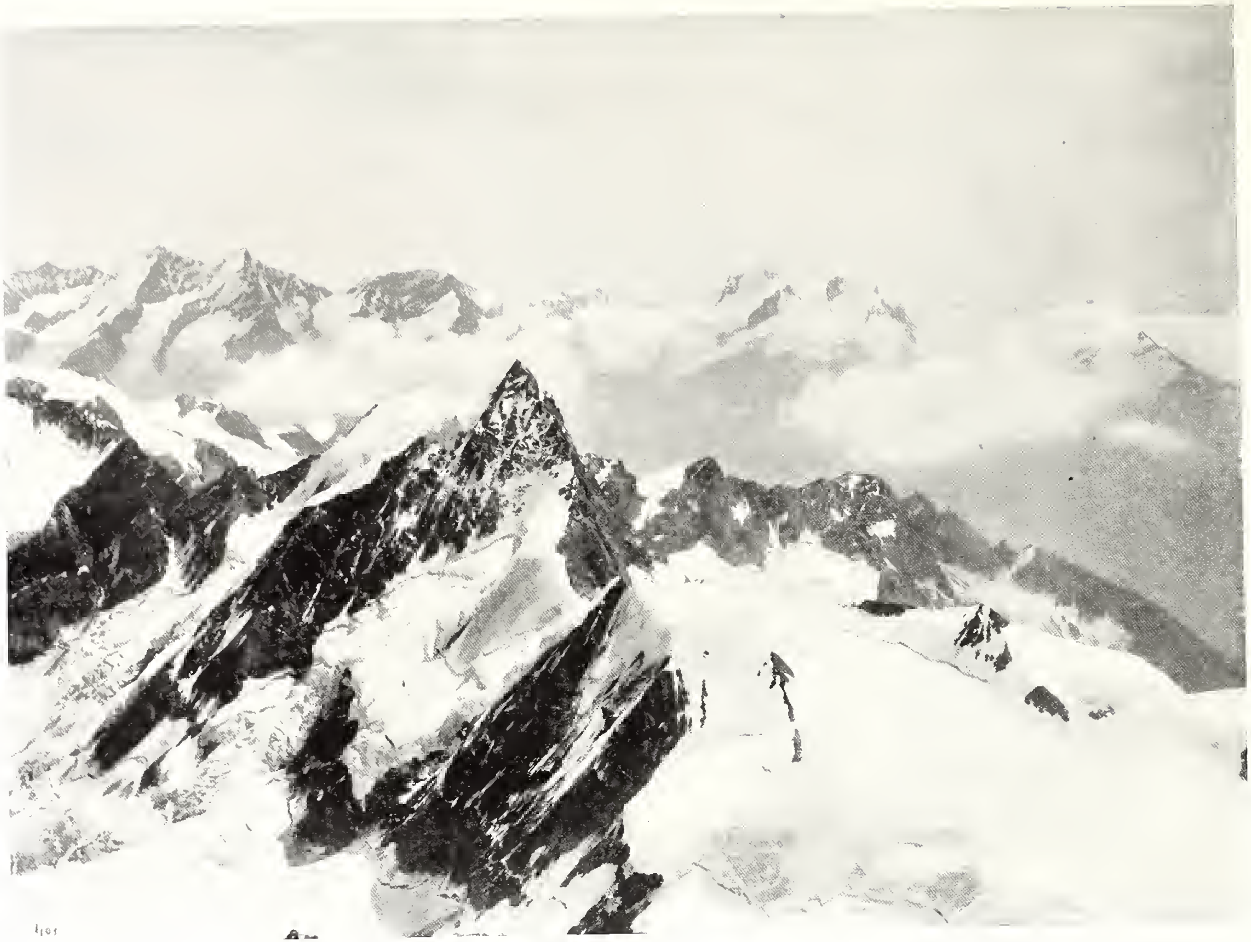
My curiosity was only about half satisfied when that peculiar shivery feeling you get when the thermometer registers twenty or thirty below took hold of me, and, dressed as I was in light, loose clothes for climbing, it made me feel quite numb. My boots were saturated from standing on the wet snow and ice; moreover, the small pools formed by the drippings helped, too — so much so, in fact, that it was all I could do to drag my feet after me to the place where the rope came over. However, after I was once on the surface it took only a short time for the hot sun to warm me up again.

We inspected the rest of the crevasses along down towards the end of the glacier, but found none as beautiful or as interesting as this one.

Our calculations in the several hours we spent walking around on the ice were that the whole body was about a mile and a quarter long, nearly a half mile wide; and from the width and from general slope of the side of the mountain, it could easily have been three or four hundred feet deep. For these calculations I have no proof, as they were determined from appearances only.

At the bottom, where the outlet was, the stream pouring out from the rocks and ice was of no mean size. The cakes that had broken off were lying about at random on the steep slope, surrounded by large banks of snow. In the small pool at the head of the stream, the boulders lying there were loose and on a delicate balance. So uncertain were we of our safety in descending there that we turned around and climbed back, preparing to make our departure by the same road we had come. All along the lower end there was a smooth patch of ice, probably smoothed out by the melting rays of the sun, and it struck me that it would be a rather novel thing to come back and enjoy a skate in the summertime. I am afraid, however, that by the time I could get over the ridge, skates, and probably clothes too, would be discarded.

To grind our way back over the side of Hagues seemed to us, in our condition, to be harder than the trip up on the other side, although that was several times as long; but with all our wet feet, tired eyes and general tired condition, we managed to crawl along until about three, when we reached the top and started down on the other side. A few minutes later we were on our horses, headed for camp.



VITTORIO SELLA

GABELHORN, ALPHUBEL, RIMPFISCHHORN, ETC. — SWISS ALPS

Probably you know that at an altitude of eleven thousand feet the air is rare and refreshing — so much so, in fact, that after cooking hurriedly a few slices of bacon, we were ready to start on the trip back to the ranch. We were packed and ready by four; but instead of going back through Black Cañon, we chose the roundabout way through Horseshoe Park. The roads were wide after we crossed the moraine and afforded better riding in the dark.

With nothing but the howling of the coyotes to interest us, we arrived at the ranch late at night, where a nice hot supper was waiting for us — and I can assure you it was appreciated.

* * *

A FACTORIAL DEVELOPMENT CHART

RICHARD PERCY HINES, B.E.

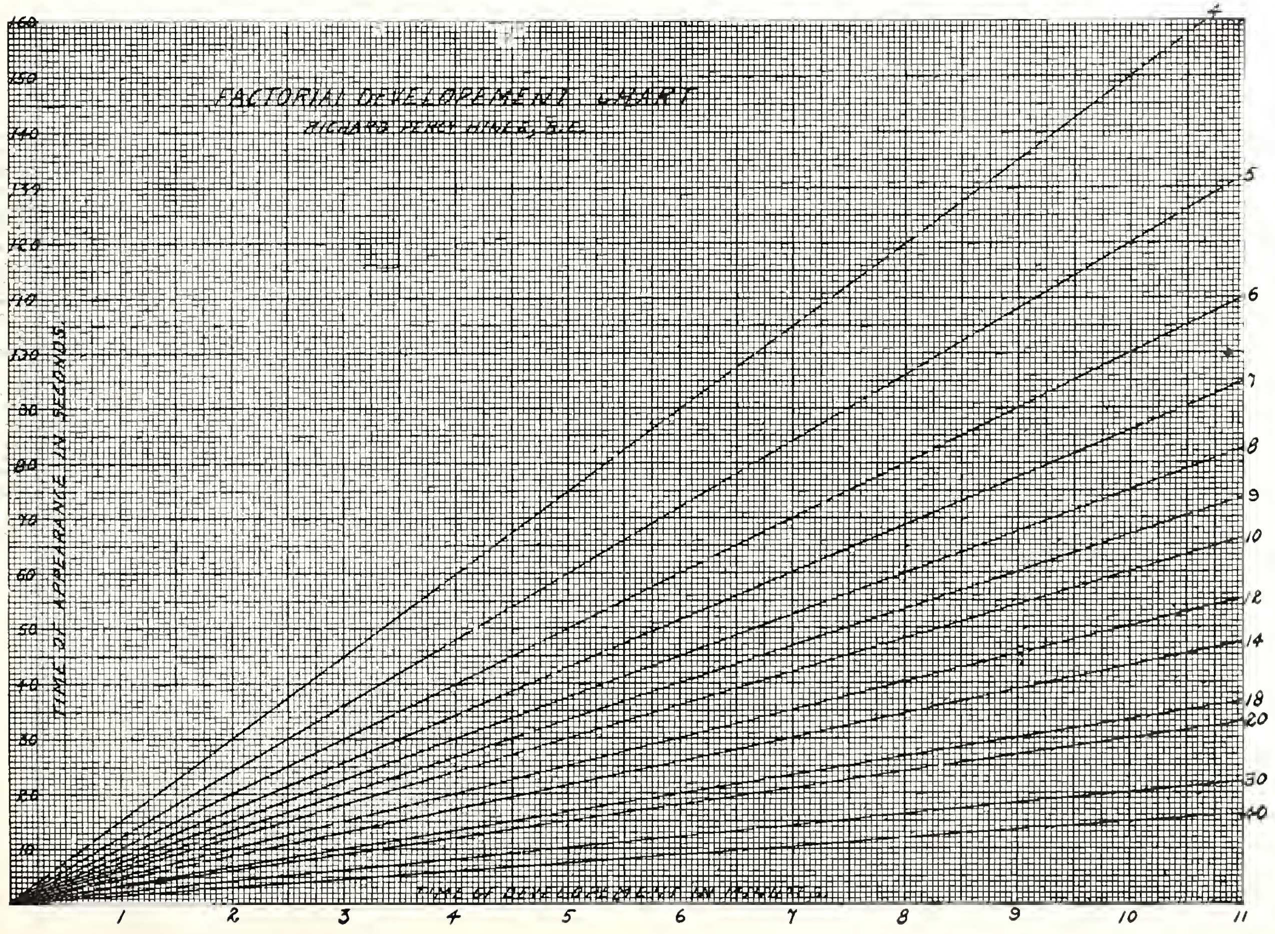
FACTORIAL or tank development for photographic plates and films has come largely into use of late, and for those who use this method regularly in their developing, or are just beginning experiments along this line, the Factorial Development Chart accompanying this article will be found most useful.

As is known, the time required for the proper development of a plate, assuming that the exposure has been within the limits of the latitude of the plate, depends upon the developing-agent used, the composition of the developer and its temperature. These factors will influence the time of appearance of the image, and for each developer there is a factor by which the time of appearance may be multiplied to give the time required for the proper development of the plate. This factor may be determined by each worker for the developer he is using, or taken from the Table of Factors on page 86 of the PHOTO-ERA for August, 1906.

The formula expressing the relation between the time of appearance, development factor and required time of development is Ta x F/60 equals Td where Ta equals time of appearance in seconds, F equals development factor, Td equals required time of development in minutes.

This formula has been used in preparing the chart in a manner frequently used in engineering-work, to show graphically the results from certain formulæ and experimental research, and those of the PHOTO-ERA readers adept in handling the slide-rule will find the formula easily solved this way, it being only necessary to set the ratio F/60 on the rule, and, for any time of appearance, read off directly from the rule the proper time of development.

The method of using the chart will be easily understood, and is as follows: given a developer whose factor is known, taking, for example, pyro, with two grains to the ounce and no bromide — having a factor of 12; and suppose, further, that the image appears thirty seconds after the plate or film has been flowed with the developer, then it is required to find from the chart the proper time of development.


FACTORIAL DEVELOPEMENT CHART

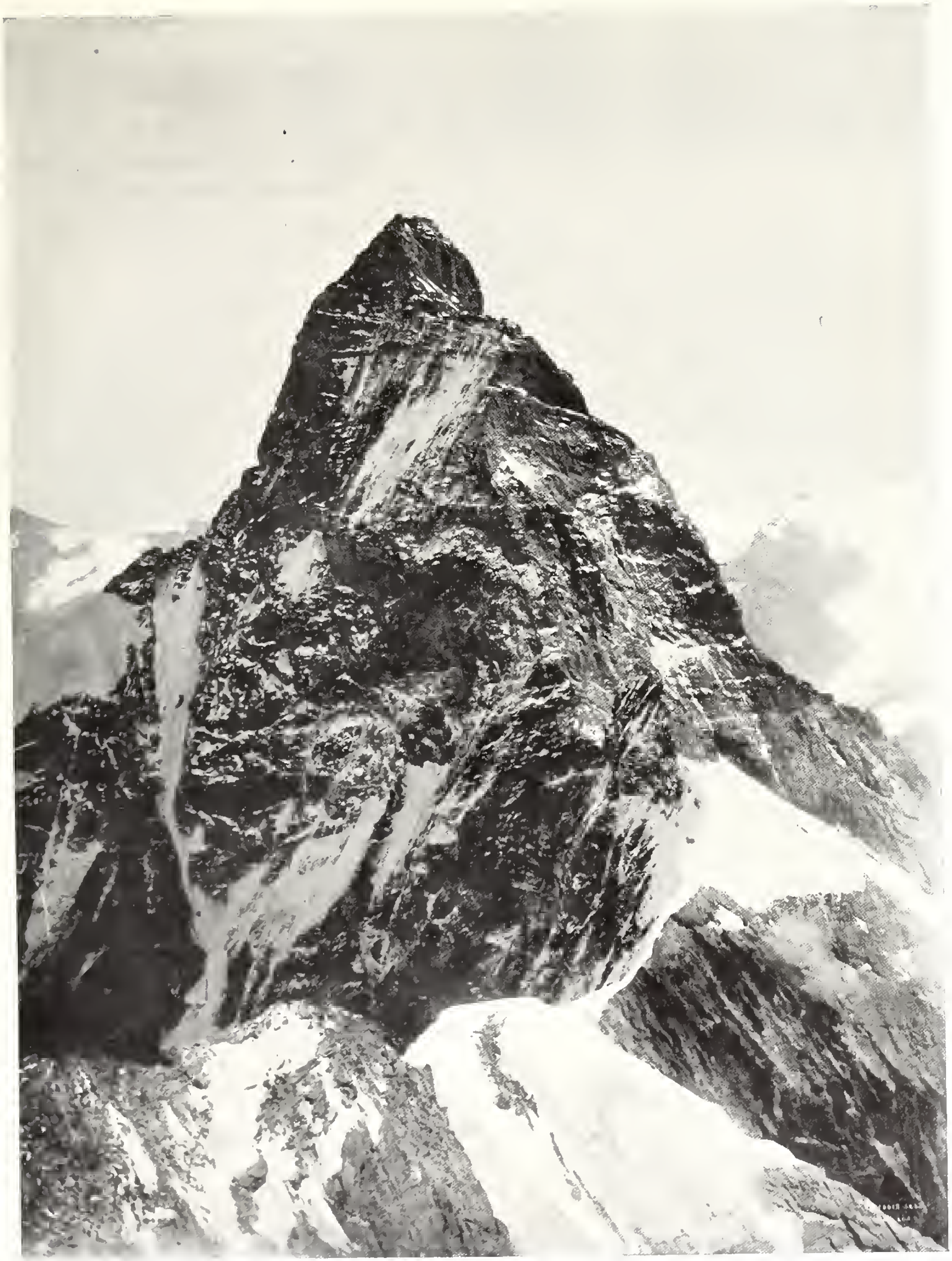
RICHARD PERCY HINES, S.E.

VITTORIO SELLA A CANE-BRIDGE IN THE HIMALAYAS

On the left-hand vertical margin find thirty seconds and follow this over horizontally to the right until it intersects with the "development factor diagonal" marked 12, and, dropping down from this intersection to the bottom horizontal line marked "Time of Development," we find six minutes as the required time of development for the thirty seconds' time of appearance and development factor of twelve.

With this method it is not necessary to know the temperature of the developer, as in the method by Mr. Alves, published in the Photo-Era of September, 1906; but of course, in the factorial as well as in the regular method of development the best results are obtained with the temperature of the developer between 65 and 75 degrees F.

Should a case arise which does not come within the chart, the result may readily be obtained by multiplying the time of development found for some assumed time of appearance within the range of the chart by the ratio of the actual time of appearance to the one assumed on the chart. For example: take sixty seconds as the time of appearance with the above factor of twelve. This falls without the chart, so we assume a time of appearance of thirty seconds, find the time of development for this and then multiply by the ratio of 60 to 30, giving us twelve minutes as the proper time of development.



VITTORIO SELLA
MATTERHORN — SWISS ALPS

THE PHOTOGRAPHY OF SNOW LANDSCAPES

W. RAWLINGS

FOR the purposes of this article, photographers may be divided into two classes,— those that have opportunities of photographing landscapes during the winter months, and those that have not. It is the fault of the former class if they do not make good use of their opportunity, and it is the misfortune of the latter, in that they cannot avail themselves of some of the most beautiful natural effects which the changing seasons present to us. Our English landscape is often much more beautiful, photographically considered at least, during the cold gray and misty months of winter than at the times when sunshine and brilliant color prevail; many of the effects are more easily secured by the camera; and the pitfalls into which the photographer without great experience is likely to fall are perhaps fewer in number. For example, he is not so easily misled by the charms of color. How often do we hear the beginner, sometimes even the expert, say, "I was carried away by the color of the scene." In winter sober tints predominate. Errors in tone values and color rendering are therefore far fewer in the photographing of winter landscapes if certain precautions in exposing and developing the plate (which will be dealt with later) are taken.

There are many fine subjects which are quite impossible during the summer, owing to the density of the foliage and undergrowth. When the leaves have fallen, all the beauty of the tree-forms stand revealed, and many a new vista is opened up. The photographer who has the opportunity of landscape work in the winter, and does not avail himself of his privileges, loses some of the best chances of picture-making which the round of the year offers.

Snow Landscape.— Only one aspect of winter landscape will be fully dealt with in this article. Perhaps it is the most difficult of all for the photographer to render with anything like complete success. I refer to landscape covered with snow. Sometimes a winter passes without a single snowfall. Possibly when snow does come, fears of cold hands, wet and cold feet, and many other discomforts keep the photographer by his fireside. But good stout boots, well oiled, and a brisk walk to the field of action usually remove any chance of evil results from the climatic conditions. The writer has on many occasions spent whole days tramping with his camera in deep snow and in wet snow, on the high moors and in the secluded valleys of Yorkshire and Devonshire, without ever taking cold or harm from the exposure — nay, rather, increased health and vigor have invariably followed.

The Camera.— Let us now look at some of the technical and practical difficulties, and see how they may best be overcome. One of the first questions that presents itself is, What kind of camera is best fitted for the work? Is a stand camera essential, or is a hand-camera a serviceable instrument for securing snow-pictures? If more than one or two days' excursion is being made it will be found advisable to take both stand and hand cameras; for in, say, a week's holiday very varied subjects and very opposite conditions of weather and light may be met with. The stand camera will, of course, be equal to any subject which does not include moving figures or animals, and will probably be found the more useful instrument.

The Lens.— But if the hand camera possesses a lens working at a wide aperture, say *f*/6, by all means make it part of the equipment. The wide aperture is almost essential for winter work. Hand cameras with lenses working at *f*/11 and *f*/16 will be of use only in very favorable light and with comparatively few subjects. Nothing is more tantalizing than to meet with delightful subjects upon which we are burning to expose plates, and to know that the instrument we are carrying is quite incapable of giving the necessary exposure. In such a case we shall probably expose the plates, against the dictates of our better judgment. We shall thus give ourselves the trouble of development on the return home, the final result being disappointment at the failure and waste.

For the stand camera, let the equipment be as complete as possible. Lenses of varying focal lengths are of the greatest service. For a half-plate camera, lenses of six, eight and ten inches' focal length will be found most useful. For a quarter-plate, lenses of four, five and one half and eight inches are excellent. It is very desirable to have a waterproof focusing-cloth. It has the advantage of being very opaque, and of affording needful protection of the camera against rain, damp and snow. There is nothing more wearisome than frequently packing and unpacking the camera because of rain or damp. The waterproof cloth dispenses with this unpleasant necessity.

Plates.— The question of plates or films is usually a foregone conclusion according to the nature of the camera in the possession of the photographer. The writer's preference is emphatically for plates, notwithstanding their weight and bulk. It is best to take away with us as many plates or films as we are likely to want. Ask the dealer to get them fresh from the maker, and of the same batch. Plates bearing the same name and label, nominally of the same speed, often vary a good deal in their rapidity. The Extra Rapid Series, of whatever brand chosen, should be used so as to enable the photographer at any time of the day to cope with subjects badly lighted or having heavy shadows. A rapid plate gives a power in reserve which may be called upon when wanted. With a lens working at *f*/6, and an extra rapid plate, hand-camera work is possible as late as 4 P.M. in January, provided discretion is used as to the subject exposed upon.

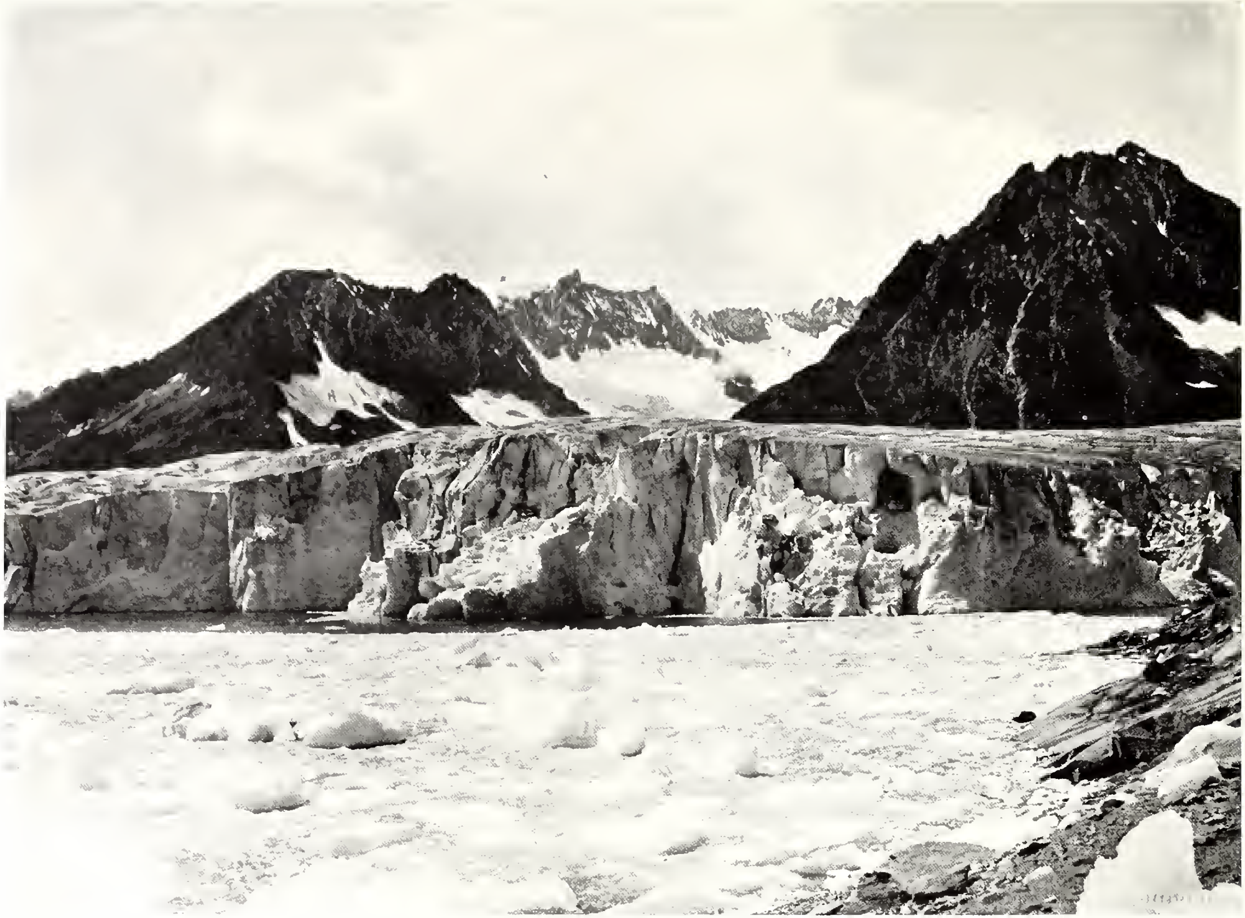
Color.—A landscape in winter, especially when snow-clad, is very largely in monochrome. The brilliant and varied colors it may have in summer are toned down to sober tints, and if covered with a more or less heavy coating of snow is reduced to shades of black and white. Isochromatic plates, therefore, possessing qualities of rendering color values correctly, are of no special value in snow photography. Ordinary plates are just as good for the purpose, and do not require the special precautions in the dark-room manipulations which isochromatic plates demand. It is sometimes claimed that isochromatic plates get rid, as far as the picture is concerned, of the mists that often dim the distance in a landscape. This is a very doubtful claim, and even if true is pictorially undesirable. The charm and delicacy of many a winter picture is due to the prevailing mists.

Halation.— Backed plates are certainly advantageous. Great contrasts have often to be dealt with in snow photography, especially when the fall is a light one. Black tree-trunks against white snow, dark buildings, and glistening sunlit surfaces are subjects very likely to give halation on unbacked plates. By all means, therefore, use plates as well backed as it is possible to procure.

The Negative.— It is most important to gain a clear idea of the kind of negative best fitted to give a satisfactory print, true in tone and texture in all its parts, before setting out to expose a plate. When there is a deep fall of snow which largely or wholly obliterates the ordinary features of the landscape, the gradations and textures are extremely delicate. The contrasts of light and shade in the snow itself, even in sunshine, are not great. It is evident that under such circumstances the negative must be developed thin. "Dense" and "thin" are relative terms, but perhaps the reader knows the usual density of a good cloud negative. A negative of a snow picture should have a density only about twice that of a cloud negative. If the deposit is much more than this the finer detail will be inevitably lost in any printing-process except carbon. The exposure has to be calculated to a nicety, or the variations in the light and shade of the subject will vanish.

Exposure.— There is a great difference in the exposure required for a landscape hidden in deep snow, and one only lightly covered with snow having dark objects protruding, such as tree-trunks, bushes, rocks, walls or houses. It is, of course, difficult to give exact directions, but as a rough guide it may suffice to say that deep snow in sunshine without dark objects, between ten and two, would require about one-twentieth second at *f*/11. In a diffused light a similar subject should receive one-fifth second, whilst one with dark protruding objects would require four to twenty times these exposures. The two main points in the exposure are these: first, do not over-expose on brilliantly lit deep snow, or all the fine detail and light and shade of the subject will be lost in the print, through flatness and want of contrast in the negative; second, do not under-expose when dark objects are included in the picture, or the negative will show such differences in the density of the deposit that nothing but a "soot-and-whitewash" print can result.

Development.— But even if the correct exposure is given, it is very easy to miss the required quality in the negative by wrong development. What are the best means of securing a thin, delicate negative full of fine gradations? First, avoid using hydroquinone (unmixed with other developing-agents), for hydroquinone tends to give dense deposits when the developer is at or about the normal temperature. (If very cold, hydroquinone developer becomes very slow in action; indeed, almost inoperative.) Almost any other developer is suitable for the purpose, preference being given by the author to pyro-soda, which can



VITTORIO SELLA

GENERAL VIEW OF MÄRJELEN LAKE — SWISS OBERLAND be made to yield almost any character of negative that may be required, both as regards density and color. A simple and excellent formula is as follows:

A

Pyro	1	ounce
Metabisulphite of potassium	½	“
Water	80	ounces

B

Bromide potassium	60	grains
Sodium sulphite	8	ounces
Sodium carbonate	8	“
Water	80	“

For deep snow pictures use equal quantities of each without further dilution. For snow subjects with considerable contrasts dilute with an equal volume of water. Development will also be facilitated by warming the developer, raising its temperature to about 60° F. Nearly all photographic processes are considerably retarded when the solutions are cold. If this is done, it is also well to warm the hypo-fixing-bath. On no account use a quite freshly made fixing-bath unless slightly warmed, otherwise there would be considerable danger of the plates frilling at their edges. Neither plates nor printing-papers should ever be transferred from one solution to another when the solutions differ considerably from each other in temperature.

Printing-Processes.— There are three printing-processes which seem peculiarly adapted to the satisfactory rendering of snow landscapes. They are platinotype, bromide and carbon, and each one of them has special qualities which may be briefly considered. First, they all have the common quality of a color which is suitable. A black-and-white print, with all its shades of gray more or less delicate, seems in the nature of the case more appropriate than a print of a warmer color.

Platinotype.— Platinotype paper for direct printing is not surpassed for its range of tone and beauty of texture. The type of negative already described as the one to aim at prints well in platinum. The process is easy, the only difficulty being one which a short experience soon surmounts; viz., the point to which the printing should be carried.

Bromide.— Bromide paper, when correctly exposed and developed, and when negatives suited to the process are used, gives results almost if not quite equal to platinotype. It is true that one sees a large number of bromide prints far from equal to the best results on platinotype paper, but this is not the fault of the paper, and on the whole it is the writer's favorite printing-medium. It can be printed by artificial light, requiring but a short exposure, and any error made in the first print from any given negative may be at once discovered and remedied in the next exposure within a few minutes. Prints may be direct (the same size of the negative) or may be enlarged. This is an immense advantage in winter photography, for, however much inclined the photographer may be in the summer months to carry large cameras about, he will most likely prefer the smaller size and weight of a quarter-plate camera during severe frost and snow. The risk of awkward slips and falls, with their attendant danger to limbs and apparatus, is much less. The writer has on more than one occasion, when carrying a whole-plate camera, suddenly found his heels slipping away from under him, and in a moment the camera and the man have formed a mixed heap on the ground. Enlargements of fine quality and gradation may be obtained from any good negative which is not too dense — an advantage which neither platinotype nor carbon can claim. Prints direct and enlarged may be made at night after one's ordinary day's work is done — a convenience much appreciated by the man who has little or no opportunity for daylight printing, especially when there is so little daylight available.

Carbon.— Carbon printing is the third process recommended, and is very valuable when the negative to be used is somewhat too dense in its deposit for either of the other processes just named. It is always well for the photographer to master more than one printing-method. He can then select the one likely to give the best result from the particular negative or batch of negatives in hand. If the subject is bold with somewhat striking effects of light and shade the carbon print is likely to be most effective. From what has been said it may be inferred that the printing-processes and papers which give warm tones and glossy surfaces, such as the ordinary and self-toning P.O.P.'s, are not considered suitable for rendering snow. Warm tones are out of place for rendering such cold subjects.

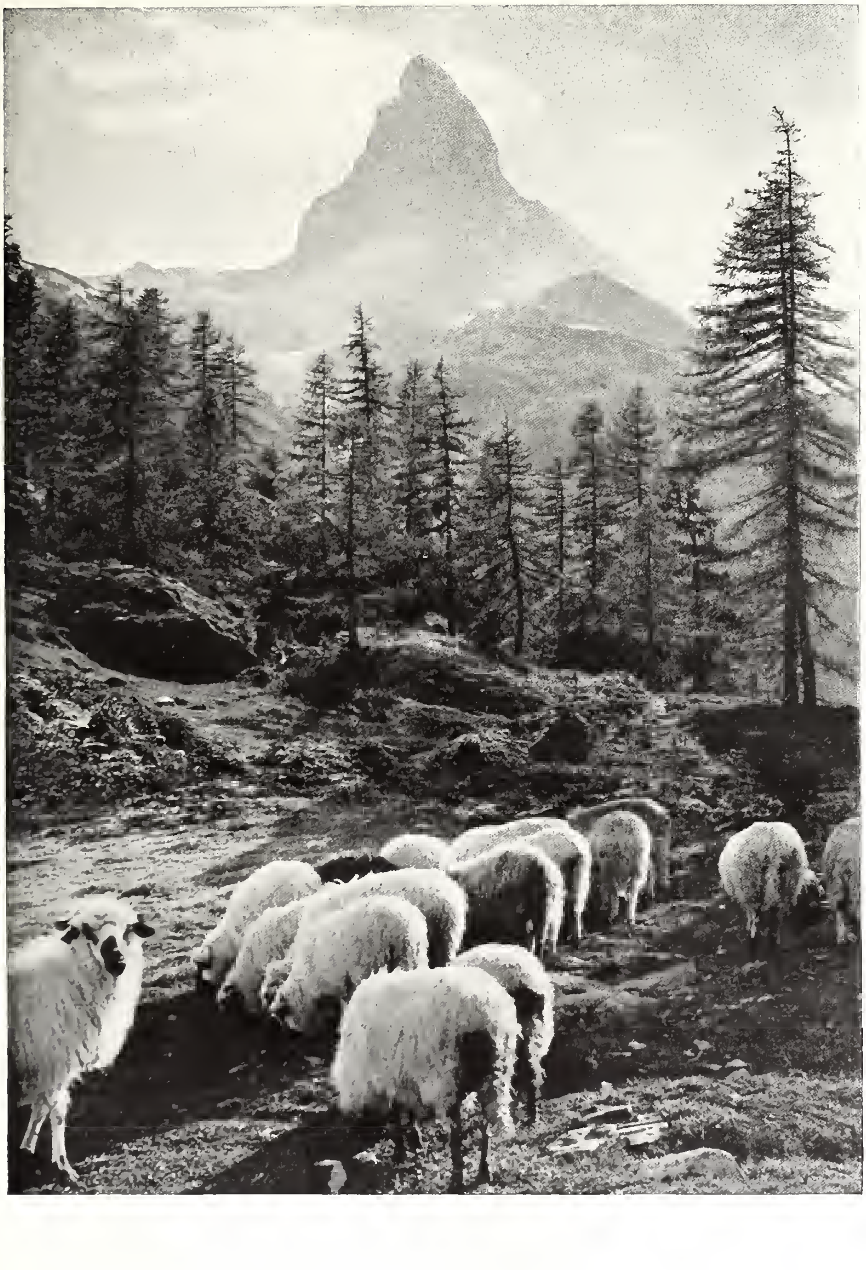
Some Pictorial Considerations. — And now let us turn from technical considerations to some thoughts on the selection of the subject itself. The principles of composition are, of course, just as applicable to snow pictures as to any other landscape. Every photographer should endeavor so to appreciate and to assimilate these laws that they should form part of his nature. He should instinctively, and without conscious thought, select just that point of view which places the component parts of his picture in the best relations one with another. There should be a principal subject to which all else is subservient. All parts should help to emphasize it. The lines of the picture should lead up to it; and the masses of the light and shade should, in their proportions and the spaces they occupy, help to make clear to the onlooker that it is for *this* the picture was made. This instinct can come only by degrees, and cannot be acquired by a few weeks' study of art text-books, though these are very helpful — and are, in fact, necessary. It comes by continuous observation of, and continued thought about, pictures by the greatest artists living and dead, and by perpetual association with beautiful things. When once gained, the problem of the selection of the subject solves itself. But laws of composition cannot be gone into further here, only certain applications of them to the special subject in hand.

"*Breadth.*"— One of the main pictorial considerations in landscape work, whether in summer or winter, is what is known as "breadth." This may be described as that quality in a picture, due to the arrangement of its component parts, by which *spottiness* is avoided. Spottiness comes from breaking up of the masses with minor points of light or dark of little interest, where points of light or dark are not wanted. Now this want of breadth is a particularly likely pitfall to drop into in snow photography. Unless the fall of snow is heavy, it is extremely difficult *not* to fall into it, for the landscape is almost invariably in such a case a white surface broken up in every direction by innumerable little patches of dark, consisting of unevennesses of the ground, tufts of grass, weeds and herbage of one kind or another. Unless a broad mass of shade or of dark tone can be included in the picture, the subject had better be left alone. With deep snow there is a difficulty of another kind. There is a great tendency to get large masses of white, formless and detailless, with no shadow or darker tone. In dull, gloomy weather, this is particularly likely to happen. But a surface of plain white paper does not truly suggest snow.

Sunshine.— Whenever possible, snow should be photographed in sunshine. It is surprising the change a gleam of sunshine effects. What appeared a dull, uninteresting white surface before now shows a marvelous texture, fine detail and exquisite form, and also broad masses of light and transparent delicate shadow. If the sunshine is fleeting, photography becomes quite exciting, for subjects of exquisite beauty come and go rapidly. Before the subject is properly arranged on the screen and focused, the sunshine may vanish, and with it all the pictorial interest of the scene. Here the great use of the hand camera comes in, for the exposures required are short, and well within the possibilities of this instrument.

Textures of Snow.— The texture of the snow has just been spoken of. It is interesting to study and secure photographs of snow in varying conditions of weather. Dry snow, wet snow, wind-swept snow, and what has been called "toe-achey slush" all display very various textures and surfaces, and the successful rendering of these all help to give a definite feeling and sentiment to the picture. It is absolutely essential to keep the negative thin during development, or all these finer qualities will be lost. A dry, crisp snow usually demands a bright, clear atmospheric effect in the picture; light clouds with sunshine are appropriate. Wet snow and slush should have duller treatment with misty atmosphere and heavier, softly defined clouds. Wind-swept snow allows of a bolder treatment of the sky with large rolling clouds, suggesting storm and force and movement. There should be complete sympathy between the landscape and sky and cloud, not only in the direction of the lighting, but also in the sentiment suggested by each. All these points require thoughtful attention.

Tree-trunks.— In and near London there is a difficulty where trees form an important feature in the landscape, which does not exist in the country. This is the blackness of the tree-trunks, due to the deposit of smoke. Under normal conditions tree-trunks have more richness and variety of color in winter than in summer, for they are then covered with lichens and mosses, which often give them great brilliance. In London, however, we see little of this brilliance, and the blackness of the trunks is in marked contrast to the whiteness of the snow. Unless care is taken our pictures will indeed be "soot and whitewash." The



MOUNTAIN SHEEP AND MATTERHORN

remedy is a simple one — so far as a remedy is possible — a *fuller exposure,* so as to secure all the detail there is in the dark-colored tree-trunks, and of course thin development.

The Lines of the Picture.— Many a landscape is chosen as a subject for a picture because of its pleasing lines, e.g., a lane winding in graceful curves towards a distant tree or cottage, or a path through a meadow to a gate or farmhouse. These lines are often completely obliterated by a fall of snow, and that which before formed a good subject for the camera may now under the new conditions be thought to be useless. But with snow we must remember that we have the power of making our own lines, and of placing them just where we want them — a power that is of the greatest possible service to the pictorial photographer. How often do we wish we could slightly alter the curve and direction of a path or track to suit the composition of the rest of a picture, and envy the painter and draughtsman his ability to do this at his will! With snow-pictures, and in a less degree with slush pictures, we have this possibility. We should decide with careful thought just where we wish our lines, and to which object they should lead, and then a few minutes devoted to tramping down the snow will work wonders.

Figures and Animals.— The introduction of suitable figures or animals into snow landscapes is a very great aid to pictorial composition, and also to the sentiment and feeling of a picture. The general impression which an expanse of snow-covered landscape leaves upon the mind is that of dreariness and loneliness, notwithstanding its beauty and purity. By the introduction of sheep or cattle a pathetic and poetic touch is added, which raises the picture of such a landscape to an altogether higher level. Life, whether of man or beast, when introduced into a picture, usually becomes the absorbing interest. It will therefore be necessary, generally, to place the figure or animal at or near the strongest position in the picture, and, if possible, let the lines lead in that direction. It is, of course, often impossible to *place* figures or animals, particularly the latter, just where we want them, but by altering our own position in relation to theirs much can be effected. A quick appreciation of just the right moment to expose the plate when composition and grouping are at their best should be cultivated, and when the photographer is satisfied that the subject is really a good one, it is well to expose three, four or six plates on the same group. Follow sheep and cattle slowly and quietly in their movements from one part of the field to another, keeping a continual and critical watch upon their grouping. As this improves have the camera ready for an exposure, so as to be able to seize the psychological moment. Failures there are sure to be, but one real success is worth many plates.

Mounting and Framing.— Two or three words on the effective mounting and framing of the print must be added before bringing this article to a close. Generally speaking, shades of gray, not very dark, will be found the best for the mount. When two tints are chosen, one to be laid upon the other, the question arises which should be placed next the picture. The picture itself must be

WILFRED A. FRENCH MONT PILATUS

consulted. If it is desirable to accentuate the lights in the picture, to make the whites appear more white, and by contrast to render the differences of light and shade more apparent, then place the darker tint next the print. If, on the other hand, the contrasts are already too great, the snow looking too white and featureless and the blacks too black, place the light gray next the picture. Experiment alone can decide the best proportions of each tint. A quarter to three-eighths of an inch will usually be sufficient for the inner tint for prints up to whole-plate size. More than two tints should be used with great care and caution, the danger being the destruction of the simplicity of the whole, and the attention of the onlooker being drawn to the mount rather than to the picture. The whole purpose of the mount is the effective and enhanced display of the picture, not the ingenuity of the mounter. The print may be framed "close up," or with such a mount as has been described. Unless the subject and the effect is a bold one the latter is recommended. A delicate picture without large, bold masses is apt to be over-weighted by close-up framing. A moulding, simple in design and of a black or dark greenish-gray color, is most suitable.

Be Prepared.— Finally, let all who have chances of winter, and especially snow, photography keep their cameras at hand, in good order, and ready for work. Do not think of putting them away in out-of-the-way places, waiting for the return of summer suns and neglecting all the marvelous beauties of the winter suns, mists, frosts and snows.—*The Practical Photographer, No. 10.*

DEVELOPMENT WITHOUT ROCKING

RUDOLF WALTER

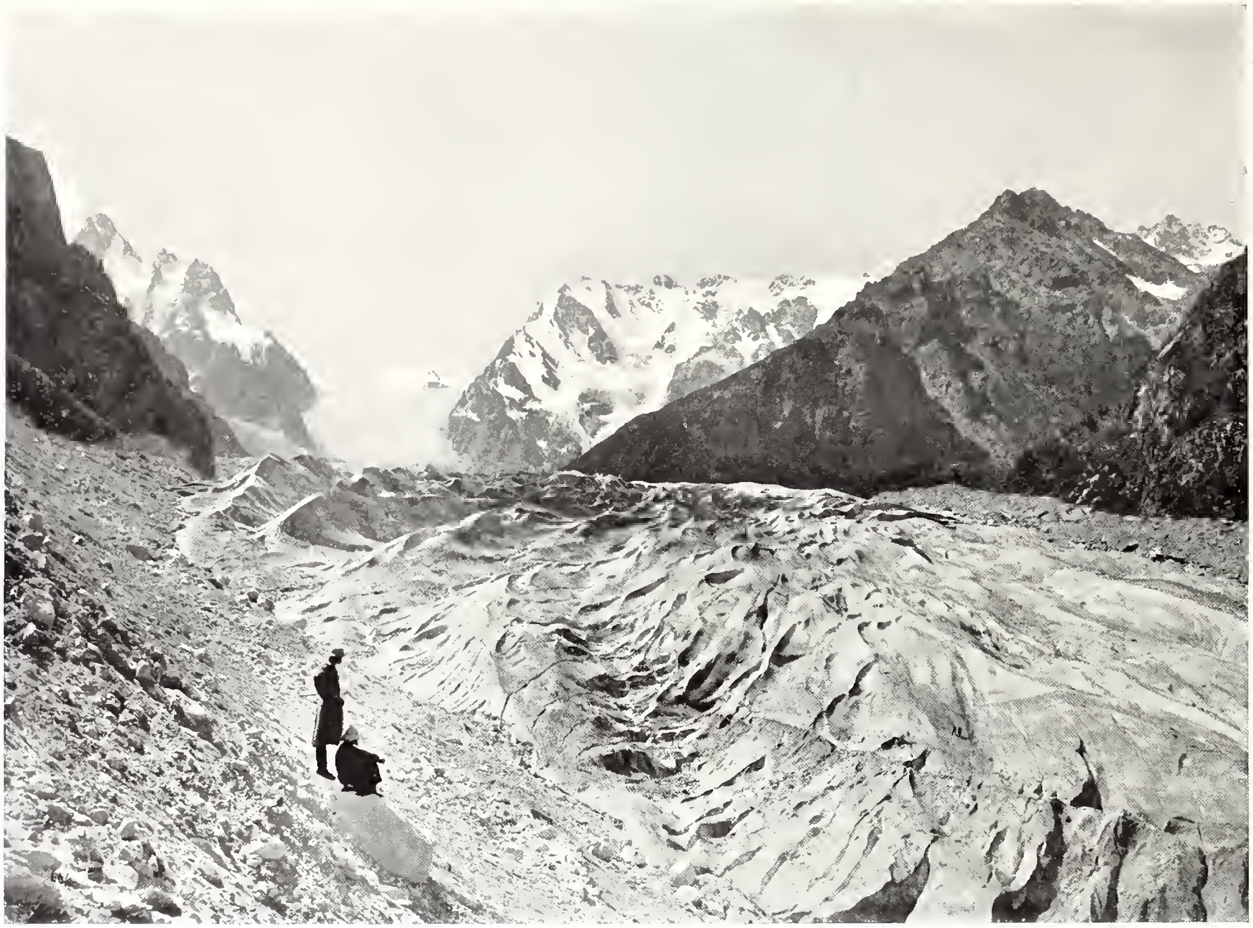
Dr. Neuhauss, the Technical Editor of the "Photographische Rundschau," in which the above article appears, says: "With his manuscript the author sent me a large number of negatives, some of which were developed by the old hand method, and some by the new. Most of them were very difficult subjects; for instance, taken against a bright window. The results by the author's new method are absolutely astounding; exposures which by the old hand development were quite useless gave with the new method negatives of exquisite fineness. We can only strongly recommend our readers to try this method."

EVERYBODY knows how wearisome the development of plates by hand is, especially when a number have to be developed and slow developers are used. Stand development in grooved troughs is some help, but both methods have their disadvantages.

At the suggestion of a well-known worker, who did not follow the matter any further, I have arrived at the following method of development, which has proved perfectly satisfactory and gives very beautiful negatives even with some over-exposure, and it has also the advantage of cheapness. To understand this method some preliminary remarks are requisite.

When a plate is exposed, where the light falls there is formed silver sub-bromide; after exposure we have then silver bromide and sub-bromide in the film. During development the sub-bromide is reduced to metallic silver and bromine is set free. The latter combines with the alkali in the developer to form alkaline bromide. In hand-development the bromide formed is equally distributed throughout the developer. The presence of bromide in the developer checks the reduction of the silver sub-bromide to metallic silver. For this reason bromide is added to the developer in the cases of over-exposure. This restraining action is exercised in the shadows as well as the high lights, for the bromide is by the rocking of the dish evenly distributed throughout the whole of the developer. In hand development, therefore, the retardation of the silver reduction is equally distributed over the whole of the plate, and a partial action on the reduction of the silver in places where it is desirable is unattainable. Stand development shows the same fault, for the bromide formed slowly sinks in consequence of its specific gravity to the bottom.

There is therefore nothing left but to place the plate film up in an absolutely levelled dish, and after pouring on a weak developer, to leave it undisturbed. With this method of development the bromine set free in the most exposed parts of the plate sinks down as sodium or potassium bromide and remains there, as the plate is not rocked till development is finished, and thus acts as a special restrainer at these places, especially as the bromine "*in statu nascendi*" appears to act more energetically than when it is added drop by drop as bromide to the developer.



VITTORIO SELLA

KARAUGOM GLACIER, FROM RIGHT-HAND MORAINE — CAUCASUS RANGE

The restraint of the development is regulated by this process in the most correct way, for in the shadows, where little bromine is set free, there is no, or very little, restraining action. In the high lights, on the other hand, there is strong restraining action. The result is, that not only is the negative more even than when hand-development is used, but also over-exposure or halation are almost completely compensated for. For landscapes with deep shadows and bright high lights, this method of development is especially to be recommended.

The most practical solution for this method of development I have found in Von Hübl's glycin stand developer diluted 1 : 40.

The method of working is as follows: a box with a light-tight cover should be obtained and the inside painted black. In this should be placed the developing-dish, and in this the well-dusted plate, which is quickly covered with the well-diluted developer. Any air-bubbles are then removed and the box closed. The cover must cover all sides and not stick, so that there thall be no shaking of the plate. The box with the plate must be absolutely level. The dark-room may now be left, and after about half an hour the cover may be very carefully lifted and the plate examined without touching it, so as not to disturb the developer. It is extremely easy, especially if a porcelain dish be used, to judge from time to time as to the progress of the development. If some plates are developed they should be lifted out as carefully as possible, so as not to disturb the developer over the others. The finished plates can be fixed as usual and the cover replaced, and the others left till finished. Development in no case lasts longer than 1½ to 2 hours.

If the dish is not absolutely level the bromide formed moves slowly in a wave to the side, and not only is the effect lost, but the bromide acts in the wrong places and wavy lines are caused, corresponding to the movement of the salts.

I hope that the above notes will lead to further experiments, and shall be glad to think that others will obtain equally happy results.— *British Journal of Photography.*

W. TOLMAN CASCADE RANGE, WASHINGTON

ORIGINALITY

JAMES C. SAVERY

Novelty in art is not an absolute difference from what has gone before, for that is sure to be bad, but only that difference and that improvement which one instructed generation can give to the past excellence it builds on.—*James Ward.*

BE original, even if in so doing you sacrifice conventional beauty! This is the plea I make to the photographer who has followed in the rut of conventionalism, thinking it would be a transgression of some mysterious law to do otherwise. The majority of us started upon our photographic careers by following the advice of "the other man" and continuing with those ideas to the end. What I mean by the "end" is that time when we have mastered the rudiments and have branched out to show what we have gleaned from our reading and experience; but most important of all, what *we* know ourselves. Few go farther than to demonstrate that they can perform to their own satisfaction what some one else has done before them. True, they have become proficient in the stereotyped processes of photography; but are they in any way raising the standard of photographic art, or doing anything different from their predecessors?

It is therefore to the picture-maker who has the true principles of photography at heart, who perhaps has never stopped to think why such and such a thing is done, that I speak; but not to the man who boasts of putting out a certain large number of platinum prints an hour, irrespective of whether they are good, bad or indifferent.

To start, I cannot illustrate this point of originality more clearly than by referring to that little band of workers who, by their persistent efforts, have done so much towards raising the standard of photographic art in America — the Photo-Secession. One has but to step into the simple but highly artistic "Little Galleries" of 291 Fifth Avenue to appreciate what wonderful achievements are being made along the lines of artistic photography. One sees upon these walls groups of pictures that represent the efforts of Steichen, Stieglitz, Käsebier, and I might mention many more who deserve equally as much credit — every group widely different from the other, but all possessing that indescribable charm which we instinctively feel is the individuality of the artist portrayed in light and shade. When we become familiar with the work of a true artist we are able to discriminate his work from all others, for picture-making to him is an expression of an individual temperament; and, like the sound of his voice or the touch of his hand, it belongs to him, and to him only.

Wherein does the charm of such pictures lie? Is it because we know they represent perfect examples of development and printing? To a certain extent we could answer "Yes" to these questions. They do stand as examples of perfect workmanship from a mechanical point of view; but, most important of all, they represent the *originality* of the individual who has executed them.

It was in a short talk with Steichen, one of the truest exponents of the Secession, and who has proven that photography is one of the greatest mediums for individual expression, that the author was, in a way, able to glean the secret of this man's success. The conversation had drifted to a point of inquiry as to the best book written upon a certain complex photographic process.

"It is very well," he replied, "to read all the books you can; but after doing so, put the books aside, and then work out your own salvation."

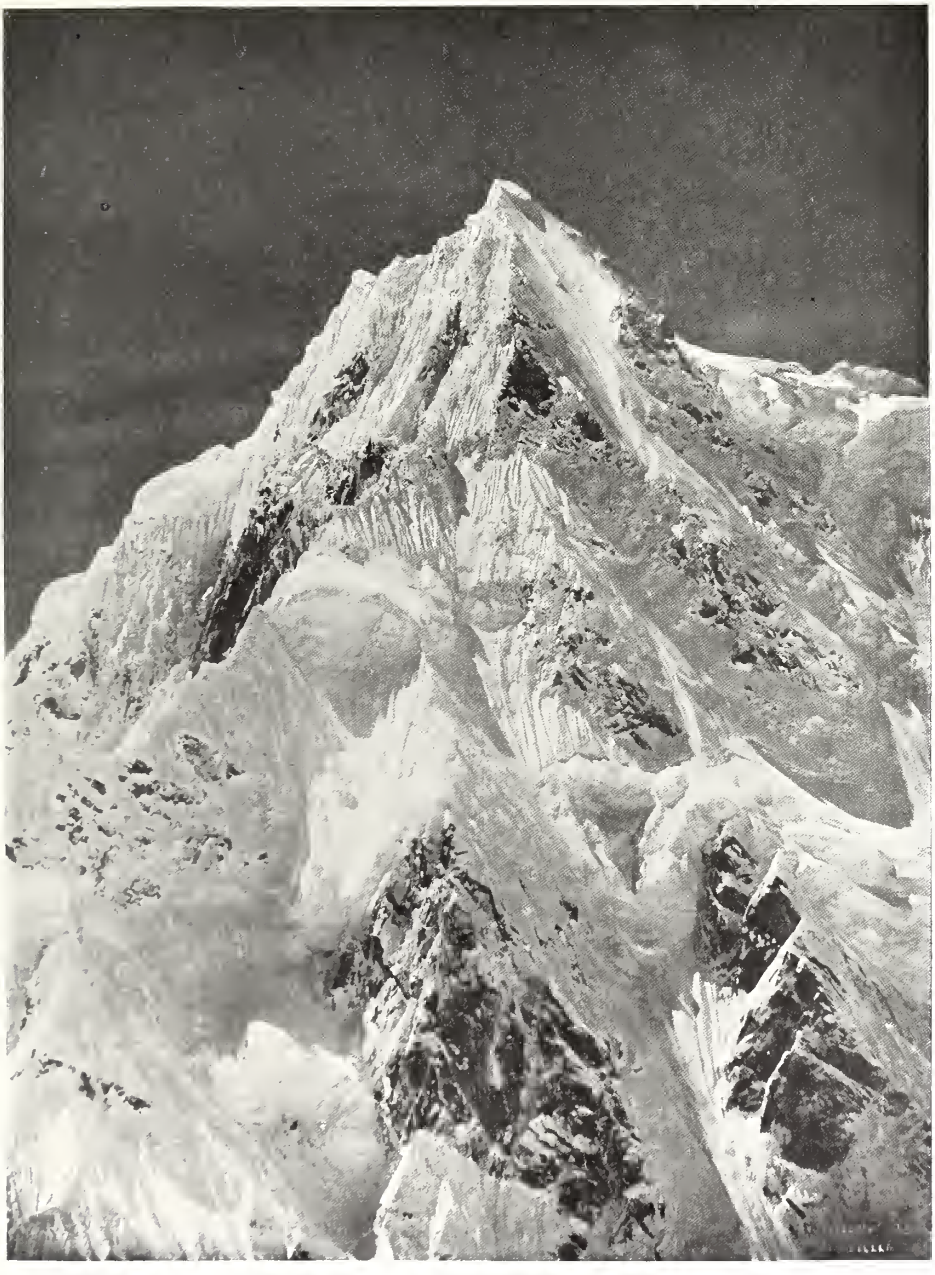
This, then, is the point that every photographer, whether he be a professional or amateur, should bear in mind. Learn to rely upon your own intelligence; get all the knowledge you can from "the other man," and then consult the best book on the market — "yourself." If your artistic taste tells you to do a certain thing, do it, and do not shrink back because you have never before seen or heard of such a thing. That is all the more reason that *you* should do it. For instance, if books on portraiture tell you to throw the light from the side, do so until you become perfect in this particular process, but don't keep on indefinitely because you think you have to. Throw the light from below once: note the result; and if you like it, do it again. It may not be quite so artistic, but it will represent originality, and there will be one consolation in knowing that your work differs from that of the majority of photographers.

There is one point to bear in mind. Do not let your work border upon the "freakish." This is originality carried to its worst form; and instead of bettering conditions, you only bring about a result that is quite the opposite. Many people mistake "freaks" for art, because such prints differ from the ordinary. If a print truly satisfies your artistic sense, leave it alone — at any rate, until you have learned better; but for the sake of humanity and the high principles of art, do not perpetrate a photographic monstrosity merely because you think the effect is "funny."

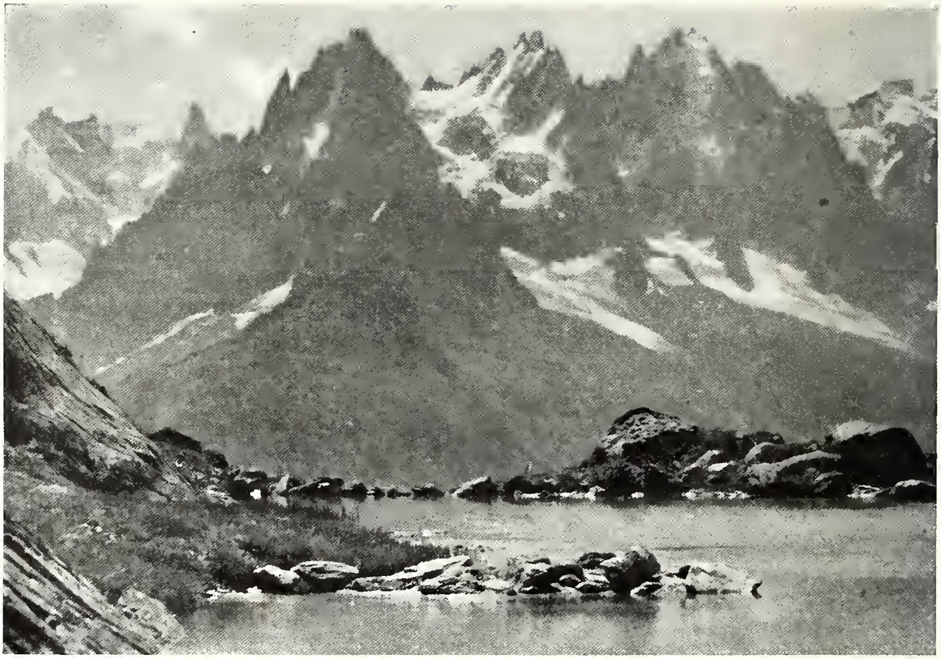
Being original does not necessarily mean that one must discover some new process — far from it. Some of the most charming work has come from those who merely took the old principles that we all know, juggled them a little perhaps, but in the end gave us a result that was artistic, at the same time original, and, furthermore, not the least way "freakish."

In the whole process of photography there is nothing so small that we cannot change to better suit our individual tastes, if we think the occasion so demands.

In conclusion, the only warning I can give is not to be *too* original until you have first mastered the fundamental ideas, for we must first know what "the other man" does not know before we dare attempt to teach him anything. But when the time does come, when we feel that we have the principles of photography well in hand, let us step out from the shackles of custom, stand independent if we think a certain thing is right, and for the first time, I think, we will then appreciate the fact that what most people call genius is nothing more than the result of using the brains that the Almighty gave us. In all events, photography will have added to its charm a hundred-fold; and may the time quickly come when our photographs will represent *our* ideas, and not those of that mysterious "other man."



VITTORIO SELLA
SINIOLCHUN, HIMALAYAS — ALTITUDE 22,570 FEET
TELEPHOTOGRAPH FROM ZEMU VALLEY



THE AIGUILLES OF MONT BLANC

THE USE OF BOLTING-SILK

F. J. MORTIMER

FROM time to time certain methods for modifying the direct production of photographic prints are advocated and extensively employed by pictorial workers. These methods, after having enjoyed a vogue for a period, appear to die of satiation. Many a good process or method of print-reproduction has been worked to death in its infancy; sometimes by misapplication, which has brought it into disrepute. A typical instance is presented in the case of bolting-silk. We are not precisely certain who first employed this material for photographic purposes in the production of bromide enlargements, but there is no doubt that during the past six or seven years it has come into recognized use for securing an agreeable amount of diffusion when making enlargements.

During the year or two following its general application for this purpose it was no uncommon thing to find at many of the London or provincial exhibitions as many as fifty per cent of the exhibits bearing evidence of having been printed through bolting-silk.

This state of things could, of course, have but one result. Bolting-silk as an aid to pictorial effect became overdone, and the constant appearance of every variety of subject treated in this manner became nauseous. Now, the appearance

A SWISS LANDSCAPE

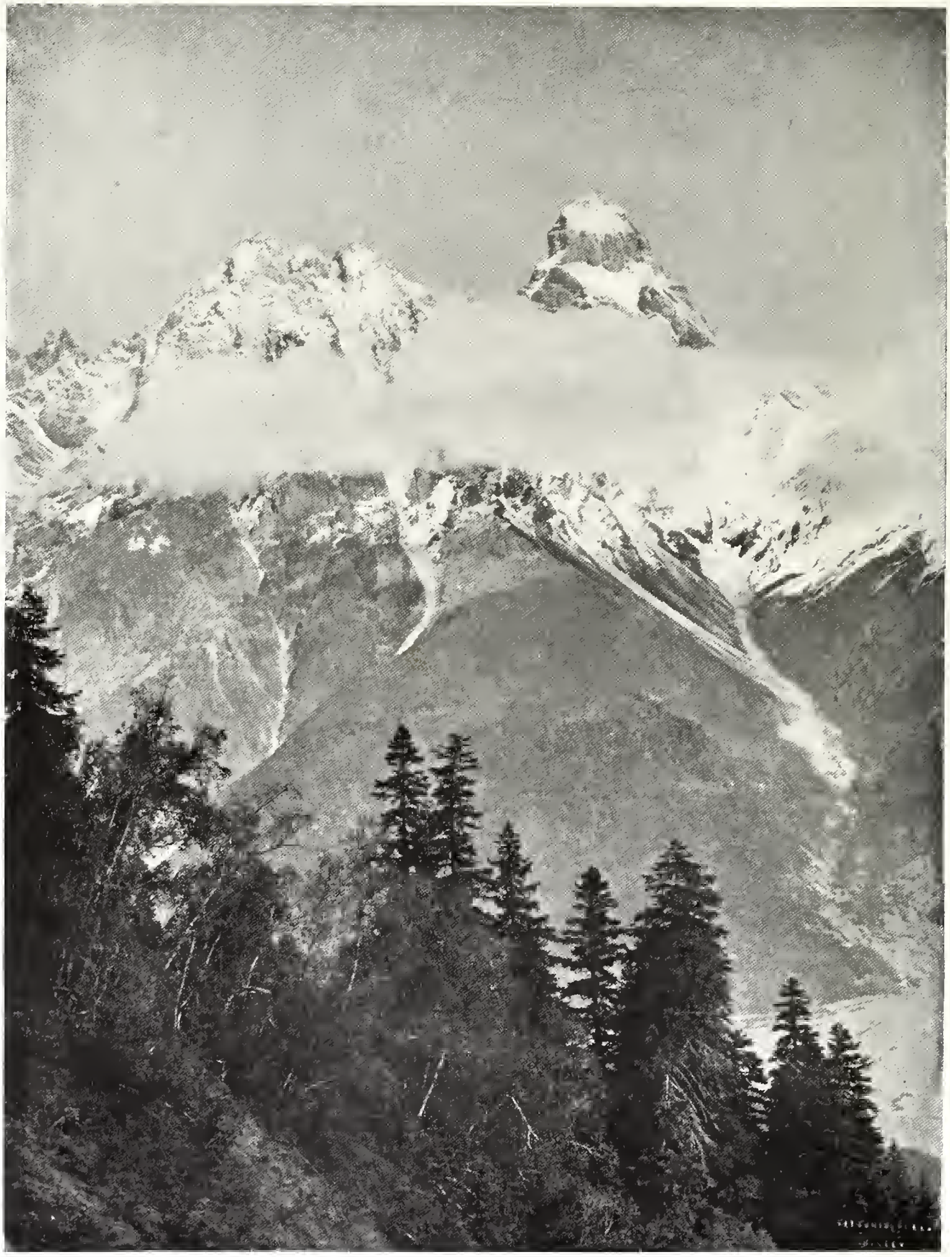
of a print produced through bolting-silk is the exception rather than the rule at exhibitions.

The fact that a great number of individuals indulged in this practice about the same time, and, in many cases, entirely misapplied the new power placed in their hands, does not, however, make the use of bolting-silk bad or unnecessary, as in many cases an undoubted gain in effect is brought about by its use.

Bolting-silk or bolting-cloth (more correctly spelled "boulting") is employed in the preparation of flour, and a "bolter" is a machine well known in the milling-trade for sifting bran from flour.

In appearance, bolting-silk resembles a very fine, somewhat stiff, gauze of perfect even mesh and texture. In application its effect is to produce a certain softness or "fuzziness," due to the breaking up of the hard lines and masses of shadows that would otherwise be produced by direct enlargement. The silk is interposed between the enlarging-lantern and the paper. During the inception of the idea it was also used in contact-printing — very likely the cause of its downfall, as in this case, or when the silk is placed so close to the bromide enlargement that the lines of the mesh are clearly imprinted on the paper, the effect of a coarse half-tone screen is obtained, which is not altogether favorable to the most satisfactory results.

To a great many amateur photographers at the present time — judging from the number of inquiries received on the subject — the application of bolting-



VITTORIO SELLA
MT. USHBA, FROM MAZERI VILLAGE — CAUCASUS RANGE

silk seems to be somewhat of a mysterious operation. The silk itself is now easily obtainable from most of the wholesale photographic-supply stores, and is made in two varieties or degrees of fineness.

The very fine variety will probably be found the most generally useful, and can be obtained up to about a yard in width.

The effect obtainable with bolting-silk varies according to its position in relation to the negative and paper on which the enlargement is being made, and it will be found that it is most easily employed when enlargements are made by projection rather than in an enlarging-camera.

For general use it will be found advisable to procure a fairly large piece of silk, larger than the biggest enlargement usually attempted, and have it stretched on a light wooden frame.

A light picture-frame will answer, but it will probably pay best to have a proper frame made by a carpenter. This will cost very little, and the silk is then always ready for use on the enlarging-easel.

The frame should be made of well-seasoned wood about an inch square in section. This should have mortised corners, and be further braced with metal angle pieces.

The silk should be attached to one side of this frame with Seccotine or strong glue, and stretched quite taut. Care should be taken that no creases or glue-marks get on the surface of the silk, or unpleasant patches will arise when printing through. If the silk can be removed it can always be washed and dried ready for use again, but if too securely attached to the frame it can be lightly sponged to remove any adherent foreign matter. It will dry quite taut again.

When the silk is securely glued to the frame four strips of stout cardboard an inch wide should be placed over the glued edges and fixed down with drawing-pins. This still further secures the silk, and also serves as a standard check when the frame is placed in contact with the enlargement.

The silk, fixed on its frame, can now be handled and used with the greatest ease. The best position in which it can be employed is about one-eighth to one-half inch away from the surface of the enlargement. The nearer the silk is to the print the more obvious the grain becomes; the further off it is the greater the diffusion. If one-eighth inch is decided upon as giving the best effect, the pieces of stout cardboard pinned on the silk side of the frame will probably give the right distance by bringing this side of the frame hard up against the print.

Other distances up to one inch can be obtained by pinning or tacking little slices of cork or card on the corner of the frame so as to bring it the correct distance from the enlargement.

At an inch distance the frame itself can be reversed, as it is presumed the thickness of the wood is an inch.

The enlargement is focused first in the ordinary manner, and the frame can be held in position during the exposure by the use of long dark-room pins driven into the enlarging-board at the top and bottom of the frame, or rubber bands can be attached to hooks on the frame and easel to hold the frame in position.

LOUIS J. CHRISTIE — TIMBERLINE IN THE ROCKIES

There are several other positions in which bolting-silk can be employed. First, in contact with the negative, which can be done by sandwiching a piece of the silk between the film side of the negative and a piece of plain glass. The mesh of the silk is then enlarged with the image on the negative. Second, to keep the silk a short distance from the negative by stretching it over a piece of plain glass held in another carrier, say, about one-quarter inch from the negative.

The enlarged "grain" of the silk is thus put out of focus, and gives a "canvasy" appearance to the enlargement. Third, in contact with the paper itself. In this case the effect is generally unpleasant, and is never quite successful.

The best effects are undoubtedly obtained by keeping the silk from one eighth to one inch from the print; and a pleasing diffusion, leaving the sharpest details of the original quite undisturbed, is thus obtained. The effect of grain or texture can be entirely removed by gently moving the frame during the exposure.

In this case the diffusion appears to be greater, yet an inspection will reveal the finest details intact, although weak.

Another excellent application of the silk is to make half the exposure with the frame in position, and the remainder in the ordinary way.

The use of bolting-silk necessarily increases the exposure; this varies with the result it is desired to obtain, the fineness of the mesh, and the distance from the print. Generally speaking, however, about twenty-five per cent increase is a normal approximation, but the exact amount can easily be obtained by trial.

Diffusion of another sort is obtained by stretching the silk over the front of the lens during exposure; but in any case, unlike the diffusions caused by throw-

VITTORIO SELLA

MONTE ROSA AND LYSKAMM — SWISS ALPS

ing the negative out of focus, the methods indicated above do not destroy the strong lines of the original, and will retain fully the contrast of light and shade, not vignetting one into the other.

The method should not be used for small enlargements — 10 x 8 or under — unless the composition is very broad, consisting chiefly of masses of light and dark; and, lastly, do not use bolting-silk with glossy papers. The rougher the paper is the better the characteristic effect of semi-diffusion will be rendered.—*The Photographic News, London.*

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A PHOTOGRAPHIC TRIP AMONG THE WHITE MOUNTAINS IN WINTER

CHESTER F. STILES

IT was on a crisp March morning that I received my first impressions of a snow-clad mountain. The keen, cutting winds made us shrink into our buffalo robes while we watched the dawn of day on the hills of Gorham. The mercury had not seen the zero mark for days, and the hammer of the horse's hoofs came forth in sharp metallic measures. Through the frosty mist which overlaid the Androscoggin Valley came a glimpse of Madison and the mightier Adams. Soon we had risen above the fog and the mountains reared boldly up in cloudless splendor — twin Dromios in cloaks of white.

Into the woods at Appalachia we plunged with buoyant spirits. Those versed in the tricks of the snowshoe will smile in fond recollection of their own initial ventures. The snow was in fine condition, and the twigs were buried deep below. But in the tangles of Mossy Glen the inevitable catastrophe ensued. An innocent twig which later proved to have a length of over six feet fouled the snowshoe. In a twinkling head was discovered where feet should be; the soft, chill, powdery snow explored the space between sweater and skin; and the hands in vain effort tried to push against the ground below. It was not until the veteran of the party had made a hasty photograph that the sputtering novice was disentangled and stood right side up; nor was harmony restored until the commissary undertook his noonday duties, which meant the distribution of a frozen sandwich, a handful of raisins, and an abundance of snow for drinking-water.

The giant boulders of King's Ravine near-by were partly covered with snow and ice. Here in summer we are wont to crawl in simian attitudes through the devious chambers of the "subway." Take warning, however, from the plight of one unfortunate, with a bulky pack, who had to be ejected by the aid of friends and force applied behind.

We now arrived at a point where snowshoes were of no avail, and we floundered to our waists in dry snow much like granulated sugar. Our snowshoes, meantime, dangled on our backs in tantalizing antics, interfering with every step and constantly fouling with the camera loads. A snowshoe on the back can be compared only to falling over a wheelbarrow.

The danger of slipping now replaced previous discomforts, and the leader, long experienced in this line of sport, was busily engaged in smashing the ice crust with his steel-clad pike. Slowly, inch by inch, we gained our height, stopping now and then to watch the mighty hurricanes which were sweeping blinding clouds of snow over the serrated crest of the precipices above.

The quietness of the natural amphitheatre below was depressing. No breath of air was stirring in its ghastly depths, now deep in shadow from approaching night. All was still save the blows of the pikes as they made assault upon the crust; but the musical tinkle of the ice-chips sliding rapidly down to the depths below had indeed an ominous sound — one which commanded instant respect for this giant incline. It was not a place for merriment; not a step was taken without consideration, and only when the pike and other foot were firmly anchored in the crust.

Across the profound depths of the ravine lay the slide-scarred slopes of Nowell's Ridge, already hiding the sinking sun. The shadow of the ridge had passed above our heads and the chill of night came up from the purple depths below. Adams glowed in the last rays of the sun as we dragged ourselves to the crest of the ridge and faced the icy blasts of the knife-edge.

The Madison Hut brought gladness and cheer to our hearts. What though the winds did howl and blow? We could at least have shelter from their icy breaths. If all could feel the debt of gratitude for the use of this hut which winter climbers realize we should never hear a single tale of its abuse.

The celebrated Madison Hut nestles between the spire of Madison and the profiled crags of Quincy Adams. Winter life here is unique. No porcupines disturb one's slumbers by their intermittent scratches and squeals; but the wind is never still, and howls around the corners like ten thousand demons let loose from the bottomless pit. Fuel is at a premium; the stunted spruces lie deep beneath the snow, and fuel-gathering becomes a mining-operation. We needed no ice-chest, for our steak was rigid; our mammoth pickles defied the teeth till thawed out; butter we repeatedly chopped with axes; and every drop of water for drinking, washing or cooking had to be melted over the fire from snow and ice.

A raging blizzard developed on our second night. We could venture only a few yards from the door of the hut, and then were frightfully battered. The throat refused the frost-laden air and the flying ice and frost cut into the face, making continued resistance impossible.

What must be the feelings of a man who has completely lost his bearings in such a storm? Fortunately, but few storms are frost-laden, but the bewildering element always exists. It was in the early spring that the writer had a

CHESTER F. STILES THE MADISON HUT

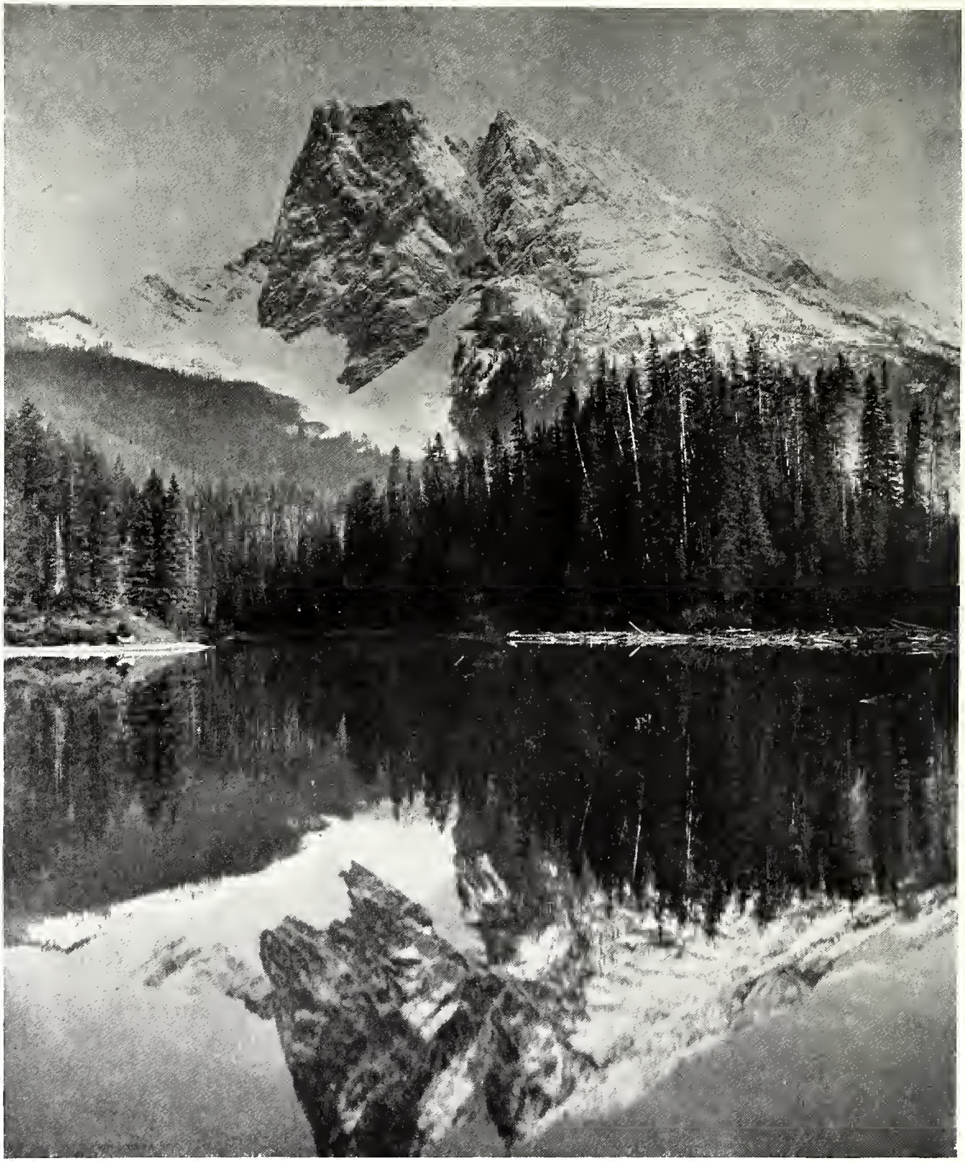
taste of worry on the sides of Adams. We had reached the minor fourth peak of Nowell's Ridge, the writer lagging because of a heavy camera-load. The clouds dropped quickly, but not before the bearings of big Adams were firmly in mind. In every direction rolled the white, interminable fog, and under foot the snowy carpet had obliterated all trace of path or guiding-cairn. I determined at once to ascend on Adams high enough to avoid deep gullies precipitating into King's Ravine, and when it was apparent that the regular Gulfside Trail was surely passed, a change in direction was risked to the east towards the hut. The suspense was not over until the head of King's Ravine was recognized, when a swift glissade down Quincy Adams brought me safely to the hut, which, fortunately, my companions had safely reached.

Stray weasels in their winter coats of white may often be seen near the hut, but larger animals rarely venture above timber-line. We of course except the famous dingmahaul, which from varied descriptions seems to be an acclimated

CHESTER F. STILES AN EXPANSE OF PEAKS

side-hill gouger. The celebrated Darwinian argument of environment as a potent factor in the development of a new species is here amply illustrated; for this strange beast, from his continual journeys over the rough peaks, has developed uneven legs — the shorter ones disposed upon one side and the longer on the other, so that he can move more rapidly about the mountain. At least, the tale is conscientiously vouched for by "Bick" of Gorham, and when a scientist brought forth one day a criticism that the dingmahaul could move only in one direction around the mountain, he was quickly nonplussed by the explanation of two species, a right and left handed one, according to the direction in which the dingmahaul was supposed to run.

Crossing the great northern peaks is a delightful way to reach Mt. Washington. A striking view of the cone of Madison is had from the head of King's Ravine, and from the summit of Mt. Adams one looks down upon the parapets, the cairn on Madison summit being over five hundred feet lower. Here one



S. J. THOMPSON
MT. FIELD AND EMERALD LAKE
CANADIAN ROCKIES

can look into the uttermost recesses of the Great Gulf, which was climbed two winters ago by Messrs. Hart, Whipple and Perkins under most trying circumstances. Sam Adams, the secondary peak to the west, also deserves a visit. From this point one has a unique view of Adams and Madison standing, like twin brothers, side by side.

Of Jefferson, no view-point seems to exist where one can get a massive appearance in the camera. Jefferson summit is, however, the point *par excellence* for the view of Washington, which from here stands up with greater mass than from any other view-point.

Few phenomena are more striking than the shadow of Mt. Washington projected by the setting sun upon the opposite horizon. We may perhaps see the observer's shadow projected on the mists below, with a "glory" around the head. Possibly more common is the corona which comes when thin snow-clouds pass over the sun. Beautiful concentric rings of color are formed, and in some cases they are seen around the moon. The most gorgeous display is the complete halo system about the sun, of reverse order to the rainbow colors. The tangent arc of 46° which in winter lies toward the zenith has proven bright enough to be photographed against the actinic sky.

When northern winds sweep down upon Mt. Washington a transformation scene is enacted; the rocks and buildings take on fantastic shapes, and there results a fairyland in white and blue. When the winds are constant the frost-feathers attain incredible lengths, but a shift in the wind soon brings destruction to the brittle mass. A high wind acting on the crust produces furrows and grooves in sinuous curves formed by the flying fragments of crust. Some of the wind-carving resembles the eroded rocks of our geologies. Stranger still is the effect produced by walking upon soft crust. The foot compresses the snow to ice, the snow is eroded by the wind, and presto, you now have a line of footprints on pedestals. One does not need the acuteness of Sherlock Holmes to follow a clue on Mt. Washington.

Of distant points visible from the mountain, there is much dispute. Our view sweeps from Canada to the Atlantic, two countries and four states being visible. There is no question that some Adirondacks peer over the Vermont mountains. Megantic shows in Canada, and Wachusett represents Massachusetts. Katahdin is eliminated from the argument decisively, and the alleged peak proved otherwise.

We can hardly deem this wonderful view a thing of beauty. Scarcely a suggestion of man appears; the purple and white tones of winter suggest that the human race has become extinct. From whence came these immobile masses, eroded and cleft by bold ravines, which lie enshrouded in the pallor of winter? Man pales into insignificance, and thoughts turn to higher things.

A gorgeous sunset, blue, brown and gold, succeeded by a lurid conflagration on the clouds, is quickly over. Night falls quickly hereabouts. Now is man's presence discovered below. Over the shoulder of Madison twinkle the lights of Berlin, a locomotive headlight approaches up the Androscoggin at

Shelburne, or a glow of light on the smoke of a puffing freight is seen down in the Notch; Littleton, Lancaster, North Conway, Lewiston and even the glow from Portland are all visible. Here and there at a tiny farm in Jackson or at the Glen House below we see twinkling lights, and feel that we are not alone.

The summary of photographic experience of repeated winter-trips into the mountains indicates the following necessities: a camera of box type, with a simple shutter, the lens at least double the ordinary length of focus, and a plentiful supply of color-sensitive plates. The danger of breaking plates is great, and the utmost care must be exercised. A tripod is bothersome, yet, if pictures are required without fail, the heavy outfit is indispensable.

Ingenuity will devise a means of changing plates under blankets at the hut, or a changing-bag, which takes up practically no space whatever when folded, can be used. Descriptions for making such a bag have been so frequently published that a repetition here is unnecessary. If films are used, they must be turned deliberately, or electric marks are almost certain to appear. Metal shutters sometimes stick, which trouble usually occurs when stepping into a chill shadow after bright sun, and the frost may also condense on the lenses, or even on the plate inside. This trouble is momentary, however, and will pass away.

Exposure is short, on account of the brilliant and richly actinic light. This actinic light will also produce a sunburn discounting any seashore burn, and in a few days whole patches of skin may be pulled off intact.

Development I prefer in eikonogen-hydroquinone or rodinal, in every case developing until a very dense negative results; otherwise, I find that the full color values are not carried through to the print.

CHESTER F. STILES FROST-WORK ON MT. WASHINGTON

THOMAS A. MORGAN

THE LAST TREE

MARS AND RECENT RESEARCHES

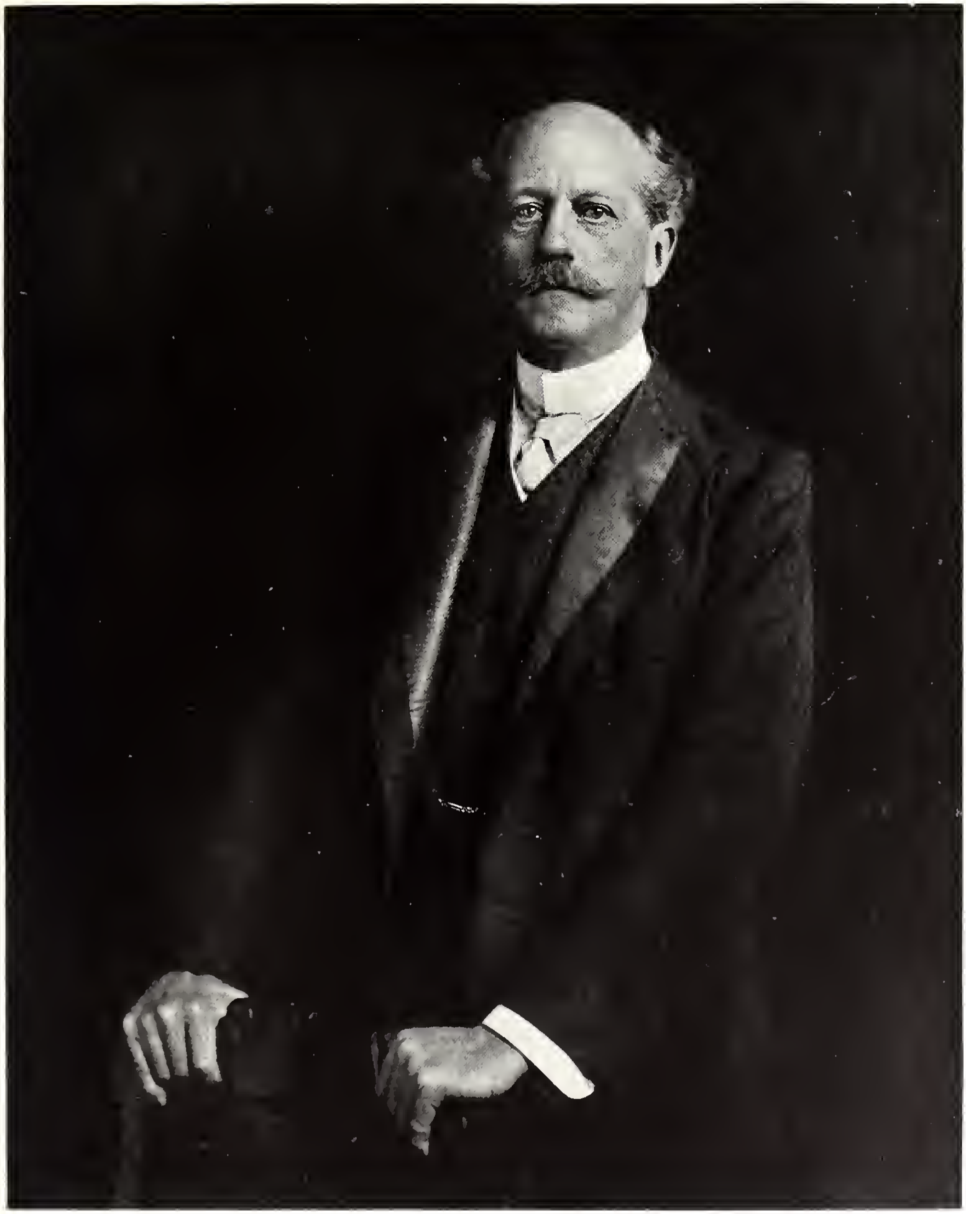
JOHN RITCHIE, JR.

OF all the problems that modern photography has to offer, there is not one involved in so much difficulty as the photographing of astronomical objects. Departures from absolute accuracy, whatever be the source, whether the fault of the lenses, the focusing, the plate or the lack of skill or care in manipulation, are likely to produce effects which are difficult of detection and misleading to the investigator.

In all the varieties of astronomical photography there is no branch more difficult than that which involves the images of the planets. Although the work of observing and of photographing planetary detail has been one of the objects of astronomers for many years, the photographic results have been in the main extremely disappointing. Photography of the stars is dealing with fixed points of light, but with the planets it involves the catching of the markings of their disks. For this a very high power is necessary, and with the employment of magnification in astronomy the difficulties begin. The least trustworthy of the factors which are involved in photography of the heavens is the atmosphere, which through its irregularity in quality, in humidity or in temperature, may refract unequally the different portions of the image. This has its effect upon the result; for while in visual observation the eye can look while the seeing is fine and discontinue its work during the moments of poor seeing, the camera must accept the distinct and the indistinct together. It gets a composite of the good and bad images that succeed one another during the time of exposure.

The importance of knowing more about the members of our own solar system commended itself to Mr. Percival Lowell, of Boston, with the outcome of the establishment of an observatory dedicated to planetary research, which is located at Flagstaff, Arizona. It is one of Mr. Lowell's personal contributions to the cause of science.

When a man wishes to establish an astronomical observatory, he is actuated, usually, by one of two motives: either to endow some institution with additional means of research, or to advertise himself or his business. The result of the first wish is the founding of an observatory in some established centre of learning, where industrial conditions often injure the quality of the results; while the second idea is likely to prove still more unfortunate in its selection of the site. Unhampered by either one of these considerations, Mr. Lowell sought for the best spot in the country in which an observatory could be placed. His choice fell upon Flagstaff, a town of some eight hundred inhabitants. It is situated on a plateau which rises above the general level of the desert some 3,000 feet, and the observatory, which is 350 feet above the town, is at a height of 7,250 feet above sea-level. The geographical position of the observatory is Latitude, north, 35° 11′; Longitude, west, 110° 10′. The institution was opened in 1894, in time to catch the opposition of Mars of that year, which was an excellent one for observation.



PERCIVAL LOWELL
BY J. H. GARO

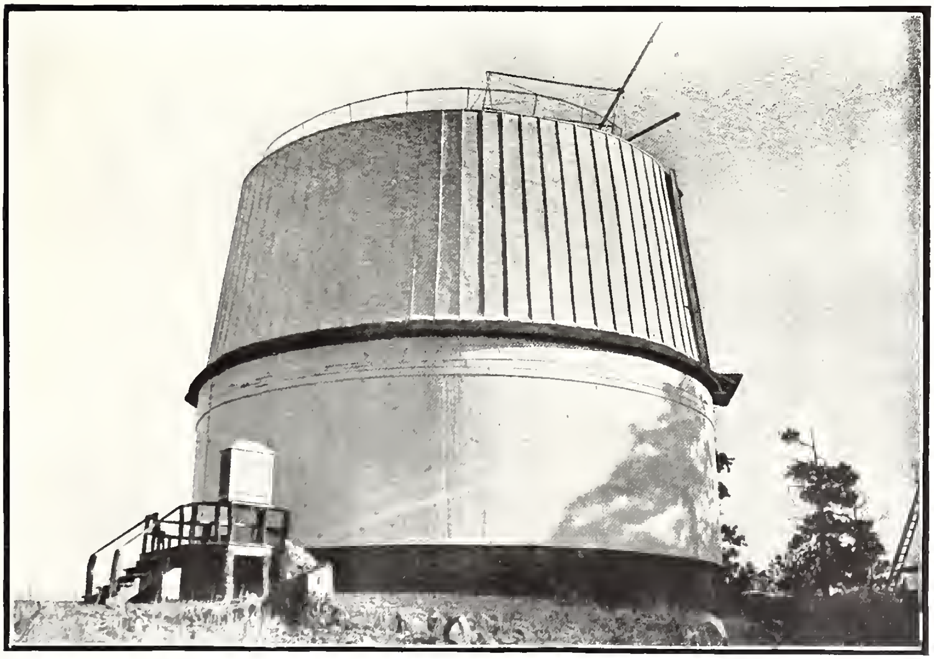
The selection of the site has been amply justified by the results, the atmosphere being of superb quality, with few storms or disturbances. The purity and steadiness of the air is shown by plates taken with the twenty-four inch telescope of the region following δ Ophiuci. These show 172 stars. Plates taken at the Lick Observatory of the same region show 161, the additional Flagstaff stars being of the sixteenth and seventeenth magnitudes. Plates taken at the United States Naval Observatory in Washington show 63 stars. The Lick telescope, from its greater size, ought to have greater space-penetrating power. Any difference may be put to the better conditions atmospherically at Flagstaff.

The equipment of the Lowell Observatory is for the special purposes for which the institution was founded. The first telescope was from Brashear, of Allegheny, of eighteen inches diameter, which has since been replaced by a twenty-four inch Clark refracting telescope. The main dome of the observatory is a drum, thirty-four feet in diameter. The construction is light, so as to permit of the most rapid equalization of temperature between the interior and the outside air. There is in addition a six-inch Clark telescope occupying a little dome to the west of the greater one, and also a Brashear photographic doublet and a complete spectrographic outfit.

Near at hand to the observatory Mr. Lowell erected his first simple house of a room or two in addition to the laboratories. This portion of the establishment has grown through various additions so as to include some fourteen or sixteen rooms. Besides, there is an astronomers' house and a lodge. The park which surrounds the observatory now includes some fifty or more acres.

Now a few words as to methods. The telescope of twenty-four inches aperture is on the Petzval system, and was made for Mr. Lowell by the Clarks. In practice it is diaphragmed down to twelve inches. An intermediate lens gives the focal image an amplification of four diameters. The telescope has been used at nine inches aperture with good results. Many experiments were made in plates, with the selection of the Cramer isochromatic. For the photography of the planets an orthochromatic screen is used. This is of a special formula made by Mr. Wallace, of the Yerkes Observatory. It is figured for the color curve of the objective of the telescope, and takes into consideration also the curve of the sensitiveness of the plate. The screen permits only the yellow rays of light to pass, and under the strictest of spectroscopic observations no loss in intensity is observable. The usual time of exposure is eight seconds, the telescope being given motion by the usual clock. One of the appliances that has been tried was in the form of a bioscope in which the plate is worked by hand. This permits many images of the planet to be caught on the same plate.

One of the important elements in the observations is one that would escape altogether the attention of the novice, a knowledge of atmospheric conditions. For more than ten years meteorological observations have been kept there by Mr. Lowell's assistants, and as the result there is possible a close prediction of the coming conditions of the atmosphere with reference to the seeing.

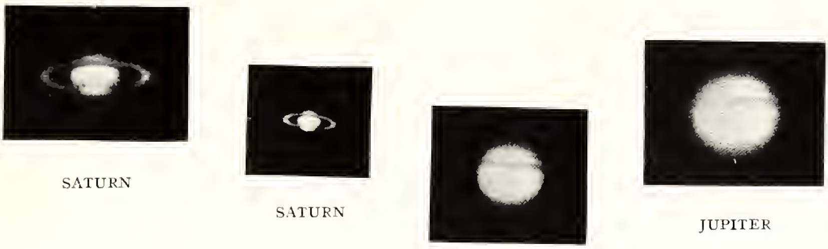


PROFESSOR LOWELL'S COTTAGE
LOWELL OBSERVATORY, FLAGSTAFF, ARIZONA

While the Lowell Observatory includes all the planets in its scope, particular attention has been paid to the planet Mars, from the fact that it is our nearest neighbor and the one regarding which we are most likely to secure definite and satisfactory results. It has therefore been an object of particular importance both visually and with the camera. But before Mars was attacked, a great deal of preliminary work was done on Jupiter and Saturn. The photographs which are here reproduced will give an idea of the comparative success of the work. They necessarily lose much in the process of preparing them for printing, but they are an example of the best that photography has been able to do with these objects. The ringed planet is very prettily shown, and one can get an idea of the belts of clouds which form the strongest feature of the giant of the planets, Jupiter. Photographs have also been taken of the disk of Mars.

The observations on Mars, which have formed so important a part of the work of the Lowell Observatory, began in 1894 to verify what Schiaparelli, the Italian astronomer, had already noted about the disk of the planet; namely, that there were certain remarkable markings on the surface. It was thirty years ago, very nearly, that Schiaparelli made his announcement that he could see long, thin lines reticulating the surface of Mars, lines to which he gave the name "canali." They were the canals of Mars. For many years no one else saw them; then a Frenchman or two verified some of the markings. The condition was much the same when Mr. Lowell began his work at Flagstaff: very few of the telescopes of the world had been able to show the canals, let alone other peculiar appearances connected with them. Mr. Lowell announced at once that the canals were visible at Flagstaff and began the systematic work of observation. Throughout it all there has been more or less disbelief in the actual existence of the finer of the markings. It has been, therefore, of great interest to have the camera verify to the world what the trained eyes of the observer saw.

In 1901 Mr. A. E. Douglas, assistant at Flagstaff, tried to take photographs of Mars which would show the canals. For this purpose he used a Wallace screen. He was successful in getting some of the larger markings,— the seas for example,— but no canals. During the opposition of 1903 attempts were again made, without great success. In 1905, however, Mr. C. O. Lampland was more successful, and secured the first photographs of Mars which showed the canals. Some seven hundred images of the planet were thus taken, which, so far as they go, corroborate what has been seen by the eye. These have been examined and approved by astronomers here and abroad, who are familiar with the nature of planetary markings. But it is to be regretted that they are not of a character which will permit of reproduction for popular inspection. The canals are delicate hair lines in the photographs, which are visible to the eye and through the magnifier, but they defy as yet the skill of the printer. It has been quite customary in the past to retouch the negatives or the prints intended for the illustration of astronomical work, but in this instance the evidence which they bear would be spoiled for the purpose for which they were taken if but a single brush-stroke or a cut with the graver were added to what nature has im-



SATURN

SATURN

JUPITER

JUPITER

PHOTOGRAPHS BY C. O. LAMPLAND, TAKEN AT LOWELL OBSERVATORY

printed there. They bear their testimony in their own way to those to whom their message is intended, the astronomers,— and a strong message it is,— but the hints that they bear are a bit too delicate for spreading abroad in the non-professional world. We must be content for the present with the pictures of the two larger brothers of Mars, Jupiter and Saturn.

What Mr. Lowell has accomplished at Flagstaff forms a very interesting story, an important addition to the astronomy of the times. When he began his observations, in 1894, Schiaparelli and one or two others were all that there were in the world who had seen the canals. Important stations like the United States Naval Observatory in Washington had not been able to make any observations of them at all, or even to see them. The mass of observations taken at Flagstaff is therefore of the greatest importance. During each opposition hundreds of drawings have been made by the different members of the staff, which have been published in part in the proceedings of the Lowell Observatory. At each succeeding opposition the mass of material at hand has become of the greater importance; the more so since photography is beginning to lend its aid. The observations include the verification of the earlier canals and the discovery of an extended network of "new" ones. The curious phenomenon of the doubling of some of the canals, the "oases," as they are called, round spots at the intersections of many of the canals, and many other features have been noted. Curious changes in visibility have been systematized, and many other phenomena have been observed. The work has been of the greatest importance, and in it photography has played thus far a minor though not unimportant *rôle*, since by it the existence of the canals, their duplication and the existence of the oases, have been proven to the world at large.

These observations lead to other, very important, considerations, principal among which is the question, Are there inhabitants on the planet Mars? This question has recently been taken up in a systematic way by Mr. Lowell in a course of lectures in the Lowell Institute, a brief review of which, together with some charts of Mars, will form the second portion of this paper.

[*To be continued.*]

EDITORIAL DEPARTMENT

THE MOUNTAIN-PHOTOGRAPHS OF SELLA.

THE extreme technical difficulties attending the successful photography of mountain-views, especially the regions covered by perpetual snow, is a matter that has engaged the attention of many an ambitious worker. The average camerist, in endeavoring to depict the snowy crest of some lofty peak, has long labored under the impression that such a subject, on account of its extreme brightness, required the shortest possible exposure, and results obtained under such conditions have been far from satisfactory, being on a level with the ordinarily inadequate snow-picture, in that they represent, not the object as it appeared to the eye, or even on the ground-glass, but a meaningless, blank, white space — due simply to under-exposure. Of course, the camera can no more obtain a modified view of a blinding mass of snow or ice than it is possible for the human eye to behold, other than is impressed upon the retina—an annoying, white blur. Effects as observed through a piece of smoked glass are not supposed to come within the sphere of photography, as they do not appeal to the artistic sense. Winter scenes, that are easily accessible, have been photographed with the utmost success for the last fifty years. Among the early successes in this line that created a great sensation at the time are "Niagara in Winter," by Barker and Curtis. It is needless to say that they have not been surpassed in pictorial effect and technical excellence. When it comes to snow-scenes in high altitudes, eminently successful photographs of this character have not been made for many years. Among the foremost workers in this branch is Henry Speyer, who, possessed of a complete practical equipment, a highly developed artistic sense and profound sympathetic feeling for his subject, has given to the world a number of superb mountain-views, comprising peaks, glaciers and crevasses — all illustrating the picturesque beauty of the Swiss Alps. The scope of this intrepid artist's work is the subject of an illustrated article in the *Practical Photographer Series*, No. 10, which is devoted to "Winter Work."

Eclipsing Henry Speyer in daring, and, like him, master of all the technical difficulties photography presents, is Vittorio Sella, whose achievements in the realm of mountain-photography have astonished the world. Elsewhere in these pages will be found an appreciation by Professor Fay of Tufts College, Massachusetts, himself an enthusiastic mountain-climber and an intimate friend of the distinguished Alpine photographer. The Sella prints are not so well known to the photographic fraternity of this country as they should be, the more is the pity; but this circumstance is due to no fault of the artist, though rather to insufficient interest shown by his fellow practitioners. This may be explained by the fact that, as pictures, Sella's productions are somewhat out of the ordinary, lacking, as they do, form and variety of composition afforded by mountain scenery in which forest, tree, cliff and stream add to the general pictorial effect.

It is true that a sea of snowy mountain-tops does not lend itself to conventional artistic treatment; but instead we have a scene, as depicted by Sella's camera, which, for imposing beauty and sublime and awe-inspiring majesty, transcends all else that bountiful nature presents to the human eye.

Sella's photographs display the full range of gradations — all the delicate nuances of light and shade, fine detail and exquisite form, that mark the true character of a snowy surface. As orthochromatic plates are used by Signor Sella, all the values in the glacial picture are rendered with astonishing fidelity and vividness — so much so, indeed, that the eye is fairly dazzled by the bright sheen of the snowy fields. Clouds and mist, which form a frequent accompaniment to a mountain-view, are treated in a masterly fashion by the skillful Sella. It is not enough for man to ascend into the high regions of eternal snow; but to convey a large and cumbersome photographic outfit with all the necessary appurtenances to an elevation of some 18,000 feet and to expose a large number of plates, including many of a panoramic and telephoto-character, among almost insuperable difficulties, as was done on the expedition into the Himalayas, is a feat that is as extraordinary as it is unparalleled. Thus to Sella belongs the credit of having achieved the highest in the realm of photography and, at the same time, results which in their rare technical perfection have revealed to mankind the majestic beauty of the highest mountain-ranges in the world.

REALISM AND IMPRESSIONISM IN ART.

THE controversy between the adherents of the two schools of art — realism and impressionism — has been a long and bitter one, and while the latter has not swept everything before it, it practically dominates the art of painting to-day. This interesting situation formed the topic of a lecture, which was given, December 12, before the Boston Art Club, by that brilliant and versatile painter, writer, lecturer and engineer, F. Hopkinson Smith. The topic must appeal to the distinguished artist very strongly, for he handles it with great enthusiasm and in a very masterly and convincing manner, indicating, with the aid of fitting similes, the extremes of both sides, and expressing a desire to see the adoption of a middle course. He described, in his own vivid and forceful way, the method by which the realist constructs his picture, dwelling upon the artist's love of detail, deliberate calculation of form, outline, tint, even minute details of material and construction — all at the sacrifice of breadth, dignity and permanent charm. When the artist exhausts all that is visible to the eye in the scene he portrays, he leaves little or nothing to the imagination, either for himself or the beholder of the completed picture. This doctrine holds true even of the most illustrious exponent of the modern school of realism, be he Vibert, Gérôme, Meissonier, Bouguereau or Détaille. Admirable as are the works of these artists, in conception and execution, they delight, they astonish. They even charm, but not in the degree that do the masterpieces of Millet, Corot, Rousseau, Daubigny, Diaz — the founders of the Barbizon school. These deal with the emotions exclusively; they stir the imagination, they fill the soul. For this reason the works of a Millet or of a Corot possess a charm that is enduring. The fortunate possessor of such a picture will never tire of it; he can live with it always.

We do not know Mr. Smith's opinion of photography as a means of artistic expression, or even its possibilities; but his lecture could hardly have been more welcome to the progressive photographer had it been expressly prepared for him. We were fortunate to be present, and took the remarks of the distinguished critic directly home to ourselves.

We sincerely hope that the enterprising photographic societies of this country will lose no time in trying to arrange with Mr. F. Hopkinson Smith to deliver before them his superb discourse on "Realism and Impressionism in Art."

A PLEA FOR KNOWLEDGE OF TECHNICAL PHOTOGRAPHY

A FAVORITE bequest to public institutions nowadays is a collection of photographs. Unfortunately, many of these are of doubtful merit and scarcely deserve the space they occupy. Not long ago we read in the newspapers of a large Eastern city that its Public Library had been the recipient of a notable gift in the nature of an extensive collection of photographs, representing the masterpieces of painting and sculpture of a famous European art-gallery. This important statement was accompanied by the name of the donor, a person of no particular distinction, and the announcement that these valuable pictures would be on exhibition in a certain well-lighted room of the Library. Piqued by curiosity, we inspected the collection. The first glance convinced us that the Library had been sadly imposed upon. The photographs clearly showed the effects of age, having been made during the early days of the wet-process, or about 1865. They were the unmistakable product of unskilled hands, and now, faded and discolored, presented a lamentable appearance.

We recall another instance of doubtful generosity. Here the photographs — all architectural — represented the buildings as shockingly out of plumb, the vertical lines of each subject converging towards the top. Besides, the prints showed the results of extreme under-exposure and careless chemical manipulation. To offer for public exhibition objects like these is an insult to the intelligence of the community. It is, perhaps, only reasonable to suppose that not one of the officials of these noble institutions of learning had the faintest idea of what constitutes a technically perfect photograph, and yet these and other educational institutions are permitted to foist upon an unsuspecting community productions not worthy the name of photographs. To correct such an evil, it might be well to suggest that, before accepting, by donation or purchase, any photographs of importance, the officials of an institution of learning consult a competent photographer. There is at least one such in every city of small size in the United States. Such a course will ensure the acquisition by our educational establishments of only the best productions of the camera, which are acknowledged to be better substitutes of the originals than badly executed copies. Here, surely, is a large field for photographic missionary work. Will our numerous photographic societies be equal to the occasion?

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO-ERA.

'T IS the first day of January, 1907, and the "Bells, the old familiar Bells, our own constant, steady friends, are ringing the joy-peals for a New Year, ringing so lustily, so merrily, so happily, so gayly. . . . Bless their sturdy hearts, they are ringing with all their might; melodious, deep-mouthed, noble Bells, cast in no common metal, made by no common founder."

Surely these inspiring bells are ringing in a year which shall prove the very best of all we have ever known; and as each day slips down the string until the rosary of the year is counted, may it prove better than the one that went before — better to you, better to me, better to all of us.

The way to make each day better is to "take up our daily round, as one new-armored for the fray," and who follows this plan will find himself "to-morrow stepping on solid ground." Just another way of saying that there is no time like the present, and, whatever our vocation or avocation, we must bring to it fresh courage, fresh endeavor, and pursue the day's work so well that we shall find the next day's work smoother for the good work that has preceded it.

In our Guild work we are each going to do the very best work we have done yet — work that shall be worthy of a place in the first class.

In watching the progress of those members of the Guild who have been members ever since its organization one cannot but be gratified at the excellent work being done by those who were beginners, with no photographic knowledge whatever. Some of these are doing work which takes high rank both artistically and in mechanical finish. There is always room up higher, for the high places are seldom crowded in any profession, and we look to see more of our members on these altitudes before the year draws to a close.

January is the "Calendar month," or the month for new calendars. If one has omitted some friend from the Christmas gift list, and desires to send him or her a remembrance, nothing could be more appropriate than a calendar adorned with one or more of his photographic prints. The most convenient calendar form is that where the months are arranged in consecutive order one under the other, so that one may look either forward or backward without turning leaves or lifting sheets of a calendar arranged with lapping leaves. Many firms issue calendars printed in this style; usually the banks have their calendars printed in this form, and one can utilize the calendar part and surround it with pictures to fit the round of months. A calendar which one member has made for a friend's study is a long panel headed with January and ending with December. The leaves were taken from a calendar and pasted on cardboard, then at the side corresponding in size to the size of the monthly sheet were twelve pictures, all of familiar scenes to the one who received the gift. A strip of glass cut the size to cover both pictures and calendar was passepartouted to the cardboard and protected the calendar from dust and dirt.

In an early number of the PHOTO-ERA, "Round Robin Guild," may be found many suggestions for the arranging and adornment of calendars; in these days it is necessary to have a calendar in every room, so one is always an acceptable gift, especially if it is decorated after the manner suggested.

At Christmas-time the shops are full of beautiful calendars, and if one has originality and uses his eyes and imagination to the best advantage he can originate a design for a calendar and have it ready for the coming year. To encourage this gift of originality the PHOTO-ERA offers in this number a prize for the best design for a calendar received before February 28. The calendar must have four leaves, and the designs must in some way typify the four seasons, spring, summer, autumn and winter.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in the Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is also free to all, whether subscribers to PHOTO-ERA or not.

SUBJECTS FOR COMPETITION

December — "Snow Scenes." Closes January 31.
January — "Calendar." (See above.) Closes February 28.

SYSTEM

The one thing that makes or mars one's photographic career is the attention paid to "system." If one is systematic in his habits, then things will go smoothly or with comparatively little friction; but if one is unsystematic, then efforts along the lines of photography are mostly unsuccessful. Though every vocation and every avocation is dependent on system for its success, yet perhaps there is no one pursuit which suffers more from the lack of system in its follower than does photography. Its very nature demands that in order to obtain good results it must be pursued in a systematic and methodical way, and that one must be so orderly that all one's appliances may have each its proper place and be found there when not in use.

Take for instance the matter of negatives. Unless one begins at the very first to index and arrange his negatives and store them in such a manner that he can find the one he needs at a moment's notice, he soon accumulates a collection of plates which grows each week larger and larger, according as he pursues his hobby more or less vigorously.

The first thing is to obtain a suitable case for the negatives, and then, as each one is made, if it is worth keeping, it is properly entered in the index and then placed in its proper place in the case. In an early number of the PHOTO-ERA will be found a description of a case for holding fifteen hundred negatives, which may be made at a trifling cost and which, once made, will be a continual satisfaction to its owner. Directions for making such a negative-case will be found in the PHOTO-ERA for January, 1902.

For one who uses films a simple yet most satisfactory way of filing them for convenient use will be found in the PHOTO-ERA for March, 1905.

Then there is the matter of formulæ. A most convenient way to preserve them and have them ready for instant use when needed is to make scrap-books of manila paper, using one book for developers, one for toning-solutions, one for the suggestions for remedying negatives, etc., etc. Go to the wholesale dealer in papers and buy several reams of manila paper. The sheet is of large size, so fold each sheet, doubling it in the same way as does the book-binder his uncut leaves, until the book when finished will be about 10 x 14. Put a number of these folded sheets together, say enough to make a forty-eight page book, and sew through the centre with stout thread. Then put a stout string through about four inches from the top, thread on it a brass ring — they are bought by the dozen — tie the ends of the string together, and there you have a hanger which is easy to manage and never gets twisted on the nail. Write in large letters on both back and front cover the name of the book, or rather the name of the kind of formulæ which it contains. If one is especially systematic, then the different formulæ for certain kinds of developers should be grouped by themselves, though this is not necessary. In pasting in the formula leave wide margin, as the paper is smooth, takes the ink nicely, and one can make notes in regard to the formula which will be found most helpful when it is used again. Most dealers send out handbooks containing excellent formulæ, but they are small and not easily stored in convenient shape for handy use. However, the generosity of the dealer makes it possible for the amateur to obtain two copies of such handbooks, and he thus is able to clip out the formulæ, using the two books, and paste them in his scrap-book. Here again comes in the help of system. Over each formula write the name of the handbook or paper from which it was clipped.

For years the editor of the Guild has made and used scrap-books such as have just been described; in fact, they were her own invention. When pursuing some special subject, no matter what, a scrap-book of this kind is always a valuable adjunct, as all material pertaining to the subject is clipped, pasted lightly at the corners, then later, if found valuable enough, transferred to a scrap-book of more permanent form. However, these cheap, quickly-made scrap-books are very serviceable, two of the first ones made years ago still being in use, and, aside from the fact that the paper has grown still yellower with age and usage, being just as good as when they were made — better, in fact, for their contents could not be replaced, and the contents are almost invaluable.

These scrap-books should be indexed, but that is an easy matter, for as each formula is added it is given its proper place in the index.

Another thing is the labelling of bottles. One may buy the gummed labels, but they are small and soon become loose from moisture or from the nature of the solutions which, running down the bottle, cut the gum and destroy the paper. A permanent label may be made by taking a good quality of linen paper, cutting it in strips two inches wide and long enough to reach around the bottle and lap at least an inch. Lay the strip on a moist blotter, paste the surface thoroughly, then attach it to the bottle, lapping the ends over and rubbing down smoothly. When the strip dries it will have shrunken a little and so does not become detached from the bottle, the lapped ends aiding in holding it in place. The contents of the bottle can be written either directly on the paper or one of the gummed labels may be pasted to it, and at any rate the paper will stick to the bottle. Tin cans from which labels become detached easily may be treated in this way with the lapped bands and will retain their labels indefinitely.

DEVELOPERS

There is no doubt that pyro is an excellent developing-agent, and pyro in the hands of a photographer with long experience in its use can produce very beautiful negatives of remarkable printing-qualities. Pyro devotees are very apt to look with scorn on almost every other developing-agent, but amateurs, especially those who love to experiment, will not be satisfied with one special developing-agent. In fact, many of the developers have much the same effect as pryo without all the attendant unpleasantness of pyro.

Rodinal, for instance, is really a developer with which one can produce almost any kind of negative, according to the degree of strength and of the solution and the time of exposure of the plate. It comes in a concentrated solution and needs only the addition of water to prepare it for use.

One of the special merits of rodinal, as claimed by its projectors, is that it is adapted to any plate in the market — which, while it is a statement of rather sweeping magnitude, yet is more or less true.

If one takes one part rodinal and adds

to it fifteen parts of water the detail comes up very quickly and the lights and shadows have strong contrasts. If one part rodinal and thirty parts of water are used the detail comes out slowly, the shadows are soft and full of detail and the high-lights never glaring or over-developed.

If one has plates known to be under-exposed, then they may be placed in a bath composed of one part rodinal and fifty parts of water, and left to develop. They can remain in the solution indefinitely without danger of fogging.

Plates that are over-exposed are placed in a strong solution of rodinal, one part to ten or fifteen of water, to which is added a generous quantity of a ten per cent solution of bromide of potassium.

ENLARGEMENTS

There is no process of photography which seems so complicated to the uninitiated amateur as the making of enlarged photographs, yet there is nothing much more simple. In the first place one requires no elaborate apparatus, the things needed being already at hand, thus making the actual outlay merely the sensitive bromide paper on which the imprint of the picture is to be made. The preliminary work consists in arranging room and camera in such a manner that the only light which can enter comes through the negative placed close against the window and passes through the lens of the camera and produces an enlarged positive image of the negative on a screen arranged for this purpose.

The simplest and most convenient way to insure the parallel arrangement of negative and screen is to have a board five or six feet long and about a foot wide on a table with one end of the board placed squarely against the window-pane. Across the board mark at different distances lines at right angles with the sides, using for the purpose a square. These lines are guides in placing the support for the sensitive paper on which the enlargement is to appear. This support is simply a wooden box, the bottom of which is covered with white paper, and unless one wishes to make a very large picture a box eighteen inches square will be large enough.

A room with one window will be found more convenient for the work, as all actinic light save that which enters through the negative must be rigidly excluded. Heavy opaque cloth, such as a dark-colored canton flannel, will be necessary for darkening the window, in which a small opening must be made and enough leeway given to enable the camera with the negative to be put through. If one has a camera with a removable back, as is the case with most hand cameras, the back is removed and the focusing-glass taken from the frame, a negative put in its place, and inserted in the camera. The camera is then placed on the board with the negative against the window, the light which enters around the opening in the window-covering is stopped out with a piece of opaque cloth, and the support for the paper — the wooden box before mentioned — is placed on the board with the papered side toward the camera. The object of the lines across the board is now apparent, for if the box is adjusted along one of these lines it stands parallel to the negative.

In regard to the focus, the amateur will find it more convenient to move the box back and forth until a clear focus is reached rather than to use the focusing-screw of the camera. The editor in making enlargements sets the scale at six feet and secures a sharp focus by simply placing the box at the right distance from the camera.

The length of exposure varies according to the density of the negative and the intensity of the light. It is always wiser to make experimental prints, taking small pieces of paper and exposing them in turn one-half minute, one minute and one and one-half minutes. As the exposures are made, mark the time on the back of the paper, and development shows you which exposure is approximately correct.

In making gaslight pictures or enlargements on developed paper it is always a wise plan to mark on the negative envelope the time of exposure which has been found to be correct; then if at any future time one has occasion to make such pictures, time is saved by knowing the correct exposure.

In arranging for an enlargement remember that the nearer the lens is to the negative the larger will be the picture, and the farther away the lens is from the negative the smaller will be the image.

When the correct focus has been obtained mark on the paper the position of the sensitive paper, close the shutter and by the light of the dark-room lantern secure the bromide paper in place by means of artist's thumb tacks. Care must be taken not to move the box during this process, and when it is in place a flatiron set inside will prevent its being moved easily. The exposure being made, the paper is soaked for a minute or two in clear water, then developed in any good plate-developer, though metol-hydrochinon will be found to give most excellent prints and is usually preferred by expert workers to almost any other developer.

While occasionally large pictures are desirable, the amateur will find that an 8 x 10 enlargement will give a more satisfactory result. The larger the picture the less clear the detail. In making enlargements from films place them between two glasses; and if the film is smaller than the glass, cover the clear glass with a cut-out of black, needle paper.

The editor in making some enlargements recently found that her kodak brought the lens too near the negative and consequently the picture was too large. A pasteboard box a little larger than the camera was taken, a $3\frac{1}{2}$ x $4\frac{1}{2}$ opening cut in one end directly opposite the opening in the end of the camera, and on the outside of the box was made by means of passepartout strips and light pasteboard a frame into which could be slipped the negative. The other end of the box was taken off and the box made an extension of the camera box, which answered every purpose of an apparatus which was fitted to another camera and which cost $2.00. The pasteboard extension cost only a little time.

Necessity and a depleted pocket-book are the parents of invention.

ANSWERS TO CORRESPONDENTS

F. Deane.— A solution which is equally good for hardening the films of negatives and the films of glossy paper is made of 180 gr. chrome alum; one-half ounce of powdered sulphite of soda, dissolved in four ounces of water. Add this to six ounces solution of hyposulphite of soda, and leave it in the bath ten minutes after the silver has dissolved from the film.

Jean R.— From the appearance of the prints enclosed the fact that the fog on your negatives is in the same place on each print shows that your camera leaks light. The first thing will be to find the leak, the next to stop it, and you will have no further trouble with light-struck or fogged plates.

E. S. Carter.— Why not try a box camera for your trip South? It is much more convenient than the folding camera, is ready on the instant, and the lens is always protected; whereas if you carry a folding camera and leave the camera open, dust and dirt get into it and injure the mechanism and also injure the lens. As you intend moving about from place to place, only stopping a day or two at a time, you are sure to find the box camera the most satisfactory of any.

H. N. S.— Brush-development means applying the developer locally with a brush, the printing-medium in this process being the platinum. The developer is always diluted with glycerine. First brush over the surface of the print with glycerine, and with a clean blotter take up all the superfluous moisture. Then have three dishes and three brushes, one dish to contain pure glycerine, the second two thirds glycerine and one third developer, and the other half developer and half glycerine. Have a separate brush for each dish, and be very careful not to dip the brush into any cup but its own. As soon as development in any part has gone far enough, brush it over with pure glycerine. One cannot in the space allotted for answering queries give very full directions, but if you will refer to recent numbers of the magazine you will find detailed descriptions of the process — a process which is most interesting.

The Crucible

FINE GRAIN NEGATIVES

Negatives of exceptionally fine grain are desirable in photomicrographic work; and as the slower the plate the finer the grain of the emulsion, as a rule, therefore slow plates should be used. Finer grain can be obtained in the negative, as a rule, by adopting Lumières' plan of adding a solvent of silver bromide to the developer, and they specially recommend the addition of five per cent of ammonium chloride. This naturally acts to some extent as a restrainer, but certainly gives fine grain.

REMOVING RETOUCHING-MEDIUM

It sometimes becomes desirable to remove the retouching-medium from a negative in order that it may be intensified or reduced. The procedure will, of course, depend somewhat upon the composition of the medium, but most of them now on the market, says *The Amateur Photographer*, London, may be removed by friction with cotton wool moistened liberally with benzole. Several applications with clean wool will be necessary to entirely remove the medium, and we should advise you to follow that treatment with an application of ether on cotton wool, followed in turn by methylated spirit on cotton wool. After that, you had better soak the negative in water, and see that it swells evenly all over, in which case you can proceed with intensification or reduction.

COPYING BY ARTIFICIAL LIGHT

In this note it is assumed that the reader wishes to copy a map, plan, diagram, engraving or monochrome print. In that case little or nothing is likely to be gained by the use of ortho plates, beyond, perhaps, a little saving of time. The chief things in copying are (1) to get the lens opposite the centre of the copy, (2) to point its axis at right angles to the copy, (3) to use the largest stop that will give the required definition, and (4) to aim at illuminating the copy as evenly as possible. When artificial light is used it is advised to have two equal lights, i.e., one on each side of the camera, but so placed that no direct light from either can fall on the lens. Behind each light should be placed a semicircular reflector of white card or other similar material. If only one lamp can be used, then half the exposure must be given with the lamp on one side and the second half made when the lamp has been shifted over to the other side. Care must be taken not to disturb either the copy or camera when the light is moved. We shall get a double or blurred image. For copying, acetylene is excellent. Incandescent gas also is good, but not so rapid. Magnesium ribbon is also convenient, as two equal lengths can be used, one on each side of the camera.

N.B.— Should the copy be on rough-surface paper, each piece of burning magnesium should be moved round in a circle, so as to give as much variety in the direction of the incident light as possible.

PLATINOTYPE POINTERS

To each ounce of a cold saturated solution of potassium oxalate add two grains of copper chloride. This develops a warm black tone. Four grains of mercuric bichloride added to a cold saturated potassium oxalate solution gives a warm black tone.

For over-exposed prints from very strong contrast negatives, first pass the print rapidly through a dish of tepid water and *at once* transfer to a hot developer. This gives a greatly softened effect, but the high lights of the paper are usually somewhat grayed. This may be useful for certain atmospheric effects.

Floating the paper on the developer, face down of course, gives rather more brilliant prints than the usual method of immersing the print in the solution.

Rough papers, as a general rule, yield warmer tones than those got by the same treatment with smooth papers.

Flat, weak contrast negatives may be improved by printing under blue glass. Hard negatives should be printed under green glass, and very strong contrast negatives in sunlight under yellow glass.

Warm sepia colors are obtained by using an old sepia developing-bath and adding to it one part of a saturated solution of oxalic acid to ten parts of the old bath, and use at not less than 160° F. This developer will also give the best results obtainable with stale paper.

TONING PLATINUM PRINTS

Purple browns may be obtained on sepia papers by using the following developer:

Water	10 ounces
Potass. oxalate	1 ounce
Potass. phosphate	1 "
Citric acid	10 grains

Use at temperature 160°–180° F. By adding thirty grains mercury bichloride, sepia browns are obtainable.

Warm tones by cold development.— Stock solution: Twenty ounces water, five ounces citric acid, one ounce yellow mercuric oxide. Warm the mixture, shake well, and filter when cold. This is added in varying quantity to the normal cold developer, according as one requires a warm black or red brown color.

MELLOWING OR TINTING PLATINUM PRINTS

Platinotype prints may often be improved by slightly tinting the paper to a color approaching that of a mellow old engraving; (*a*) a strong infusion of tea, or (*b*) coffee may be used; (*c*) dipping in a one per cent solution of potassium bichromate, rinsing lightly, drying, and exposing to light imparts a pale yellow-brown tinge to the paper.

Infusions of tea or coffee are better used freshly made, but may be kept for some time if a few grains of salicylic acid be added.

AGE OF PLATINUM PAPER

THE maturing of platinum paper, after first opening the original tube, has a considerable influence on the character or quality of the prints. They are softer in their contrasts, and less brilliant, and as the age of the paper increases, distinctly warmer in tone. Paper that has been kept two or three weeks should always be used for prints from very strong or harsh negatives wherever practicable. It possesses the additional advantage that it does not solarize so readily. It is assumed, of course, that the paper has been stored carefully in a calcium tube.

Prints not developed soon after exposure are similar in character to those on paper that has been kept. A greater effect of age is produced in a given time, however — probably on account of the unavoidable exposure to atmospheric influence during printing, inducing a change which continues more rapidly than the very slight effect of age in paper carefully stored.

STAINS FOR FRAMES

IN all cases the solutions may be diluted for light staining; and for the inexpert it is well to give several light stains, letting the work dry after each, as a single application of a strong stain is apt to result in patchiness. Have the wood dry and free from dust before staining. After staining it may be smoothed with very fine sandpaper, and varnished or polished if desired.

Black

(*a*)	Protosulphate of iron (green vitriol)	1½ ounces
	Water	20 fl. "
(*b*)	Crushed nut galls	3 "
	Water	20 fl. "

Let the galls simmer gently in the water for half an hour. When cold, strain. Bottle (*a*) and (*b*) separately. Apply alternately to the frame, with a sponge or brush, letting the wood dry after each application. Several applications are necessary, and on soft woods this gives the finest blacks.

Black
(for hard-wood frames)

Sulphuric acid (strong)	1 ounce
Water	16–20 ounces

Crude acid will answer. Wet the wood evenly, then dry before a clear fire. Repeat three or four times until black is intense, then wash away any free acid. An old sponge or cotton rag may be used, but will be destroyed by the acid, which must be kept from touching clothing, skin or carpets.

Brown and "Imitation Oak"

Permanganate of potassium and water. Strength according to color required; try ½ ounce in 20 ounces water.

Brown

Catechu (or cutch)	1 ounce
Water	10 ounces

In some cases it is necessary to boil, though some samples of catechu make solution without. May be used hot or cold. The color may be modified and strengthened by alternate applications of the above, and of bichromate of potassium in water; say ¼ ounce in 10 ounces. Stronger solution gives deeper color with a given number of applications.

Imitation Walnut

Bichromate of potassium	40 grains
Vandyke brown	400 "
Carbonate of soda	200 "
Water	10 fl. ounces

Boil. Apply hot or cold.

Red

Brazil wood chips	4 ounces
Alum	½ ounce
Water	20 fl. ounces

Simmer for half an hour in glass or an enamelled saucepan, then add 2 ounces acetic acid (glacial). When cold, strain and bottle.

Madder Red

Alizarine paste (10%)	400 grains
Ammonia. 880	½ ounce
Water to	3 fl. ounces

Shake well, and see that solution is complete, then add:

Alum	10 grains
Water	½ ounce

If kept long, must be well corked to prevent evaporation of the ammonia.

Green

(*a*)	Acetate of copper	2 ounces
	Cream of tartar	½ ounce
	Glacial acetic acid	½ fl. ounce
	Water	20 fl. ounces

Dissolve slowly and almost completely, with frequent shaking.

May be modified by mixing with a solution of —

(*b*)	Indigo	2 drams
	Glacial acetic acid	½ fl. ounce
	Water	20 ounces

Boil. Add one part of (*b*) to about four parts of (*a*). More of (*b*) gives darker color. — *The Photographic Monthly.*

NOTES AND NEWS

OUR SPECIAL PORTRAIT COMPETITION

THE portrait competition, open to professional workers only, closed September 1 of last year, at which time, however, relatively few entries had been received. This we attributed to the photographers' conventions, State and National, which had exhausted the best productions of the artist members of the fraternity, who solicited us for more time. This was granted, and December 1, 1906, was fixed for the time limit, the change proving mutually satisfactory. The portraits received were submitted to the jury, and the firm of Brock & Koonce, of Asheville, N. C., emerged as the successful winner. The prize, as advertised, consists of a Cooper-Hewitt Printing-Outfit, cash value $130.00, which, Mr. Brock informed us, came most opportunely, as his firm was going to occupy a new and more commodious studio in January, and this new equipment will enable the firm to facilitate the work in the printing-department. The printing-outfit was forwarded to the prize-winner directly from the Cooper-Hewitt headquarters in New York City.

Mr. Brock, who is the artist of the firm, while Mr. Koonce attends to the business end, has gained both fame and fortune through his strikingly artistic work, and it is, therefore, not surprising that the prize has been awarded to his firm. We expect to publish the successful print in the February issue of the PHOTO-ERA. The subject represents a young lady seated, thoughtfully, at a window, through which is visible a charming summer landscape. The work is slightly in the direction of the new school of portraiture — well-modelled, and soft in texture, yet vigorous and full of character. The management of pose and lighting evinces the master hand.

MR. CORTHELL'S EXHIBITION

WENDELL G. CORTHELL, of Wollaston, Mass., exhibited an interesting series of prints at the Boston Camera Club last month. His outdoor pictures, which are taken mostly during his travels in Europe, evince a decided artistic temperament and considerable taste in the selection of material. Our readers are familiar with Mr. Corthell's work, choice examples of which have appeared in the PHOTO-ERA from time to time. In the December issue of 1905 we printed his admirable sketch on Dinan, together with a charming set of prints illustrating the picturesque features of that old Brittany town. Mr. Corthell excels in the introduction of the human interest into the picture. His artistic experience enables him to select the right moment, and thus the figure or group of persons becomes an harmonious and inseparable part of his picture, be it a landscape or an architectural subject. He also fully understands when the human element mars rather than helps the picture; thus he prefers to depict certain scenes as lonely and deserted, which certainly heightens the artistic effect. Among the most attractive subjects shown at the Boston Camera Club were "Shoemaker at Amalfi," "Gateway to Peterborough Cathedral," "Canal, Venice," "Castle of Chillon," "Lake Como," also several old stairways in southern Italy. He displayed also a number of charming genre subjects and an interesting series of portrait-studies.

PHOTOGRAPHY BY WIRE

THE European side of the photographic world has lately been stirred, as rarely before, by the discoveries in the matter of transfering photographs by telegraphy. Our readers are doubtless familiar, by this time, with the details of this wonderful phase of electro-photography, as details have been printed in every prominent newspaper throughout the world. The man originally identified with this invention is Professor Korn, whose process of transmitting the photograph along the telegraph-line consists in using the negative or the positive film as the object, whose image is received on the selenium cell. At the end of the line is fixed a Geissler or vacuum tube, and the illumination in this, excited by some electrical source, varies with the strength of that source, therefore in this case with the intensity of the current through the line, which is altered by the variation in the density of the silver image. The light from the Geissler tube acts on a sensitized emulsion, which by development gives a reproduction of the original photograph.

M. Edouard Belin appears to proceed in a different manner. Here the camera is placed opposite the subject to be transmitted, the image being received on some surface which is connected with the telegraph-line, at the other end of which is a blank sheet of paper on which the image is recorded at once. There is no intermediate negative or positive. His first experiment was sending an image of a black dot along three hundred miles of wire. He has continued his experiments along this line, hoping to be able to thus transmit the image of a human face or any other object. It is reported that he is about to realize the feat of sending ten successive images per second, so that an object or scene photographed at one place will be instantly transmitted and received at another.

Just what means are employed by each of these two bright minds is not yet clear; but it is known that Professor Korn's results are in line, whereas M. Belin's are in dots. It appears to be generally conceded that the Frenchman's methods are a great improvement over those of Professor Korn. Every one interested in photography will watch with profound interest the progress of this marvelous invention. Stay-at-homes need not rest content by merely listening to the musical strains of an operatic performance. They may hope to also observe the action of the performers upon the stage at the same time — all by means of a combination of electricity and photography, for which method scientists are searching for a name. For the present it may suffice to call it "Photography by Wire."

EDITORIAL NOTICE

Among the mountain-views which embellish the pages of this issue of the Photo-Era are three the authorship of which we are unable to establish. They are, "Les Aiguilles de Mont Blanc," "Matterhorn and Mountain-Sheep" and "Swiss Landscape." The original prints were kindly loaned us for the purpose of reproduction by C. E. Cobb & Co., of Boston.

A PHOTOGRAPHER-STATESMAN.

It is not often that a professional photographer is disposed to render a public service to his State. A well-known photographer of Attleboro, Mass., is a member of the General Court of Massachusetts, and has lately come into political prominence by his bill in favor of biennial gubernatorial elections in his State. Although personally knowing Mr. Holman through his talents as a photographer and as a public speaker, we do not know whether he is Republican or Democrat; but in his desire to have a governor of this State elected only once in every two years he has the sympathy of the majority of the voters in the Bay State. Those who have had opportunities to enjoy Mr. Holman's oratorical powers may rest assured that when he raises his ponderous voice in the House of Representatives everybody will listen with profound attention. We predict success for the bill which Mr. Holman will introduce.

A GENEROUS INVITATION

The genial Elbert Hubbard is very fond of a joke. We have before us a most hearty and cordial invitation to attend one of his lectures. The request for our presence comes in the shape of a private mailing-card. The left side is adorned with a superb likeness of this well-known lecturer and philosopher, and to the right appears the following legend, in very large type:

"From the Roycroft Shop, which is in East Aurora, Erie County, N. Y., U. S. A.

"You are cordially invited to attend the lecture by Elbert Hubbard at the First Parish Church, West Roxbury, Mass., Saturday evening, January Twelfth, Eight o'clock, auspices of 'The Unity Club.' Subject: 'An Age of Common Sense.'"

We were just considering the train service, our engagements, etc., being deeply moved by this hearty invitation to attend this lecture by the illustrious American, when our attention was called to a short line, printed in exceedingly small type, at the bottom of the post-card. This read, "Admission seventy-five cents."

LANTERN-SLIDES IN COLOR

Those indefatigable workers MM. Lumiere have been perfecting a new color process for making lantern-slides, which, although extremely simple of manipulation, has been enthusiastically admired and approved by all who have had the pleasure of seeing specimens of the work. As the color values are true to nature and the operation of making simple — all of the colors being faithfully reproduced in one exposure on one plate, and development being the same as all other plates — the process will have a big future. When developed, the negative is reversed, developed again in white light, fixed, washed and dried; after which the image may be seen in all its beautiful colors.

THE PHOTOGRAPHERS' ART LEAGUE

The Photographers' Art League held a very instructive and successful session November 13 and 14. The following officers were elected: C. A. Shubart, president; F. C. Benton, secretary and treasurer. The next meeting will be held at the studio of I. E. Townsley, Vincennes, Ind., about March, 1907.

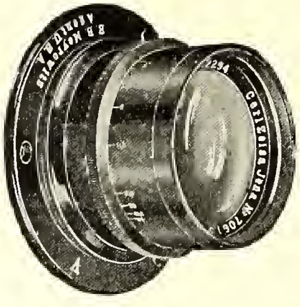
THE PHOTO-SECESSION EXHIBITION

The first of the season's exhibits of work by members of the Photo-Secession, which was held during the past month at the Little Galleries, between Thirtieth and Thirty-first Streets, New York City, offered an exceedingly interesting and noteworthy collection of work, most of it new. The place of honor was given to five prints by Steichen in as many different printing-processes, which, in addition to their artistic merit, furnish suggestive and striking examples of the possibilities of platinotype, bromide, gum-bichromate, platinum and gum-bichromate combined and photogravure.

The work of Mrs. Käsebier, Miss Alice Boughton, Miss Lohman, Mrs. Bennett, Miss Adelaide Hanscom, Herbert G. French, Joseph T. Keiley and other well-known Secessionists also occupied positions on the walls.

Clarence H. White was represented by a number of excellent examples of home protraiture, showing marked progress and much promise for the future, while Alvin Langdon Coburn exhibited a carefully selected collection of his characteristic work, including his portraits of George Bernard Shaw and Frederick H. Evans.

As a whole, the exhibition should be highly satisfactory to its promoters, as it evidences sure and steady progress toward the high ideal of Mr. Stieglitz and his followers, who have done much for the improvement of pictorial photography in America.



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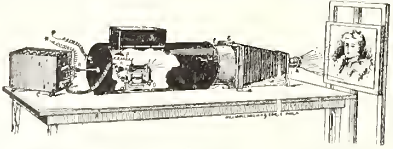

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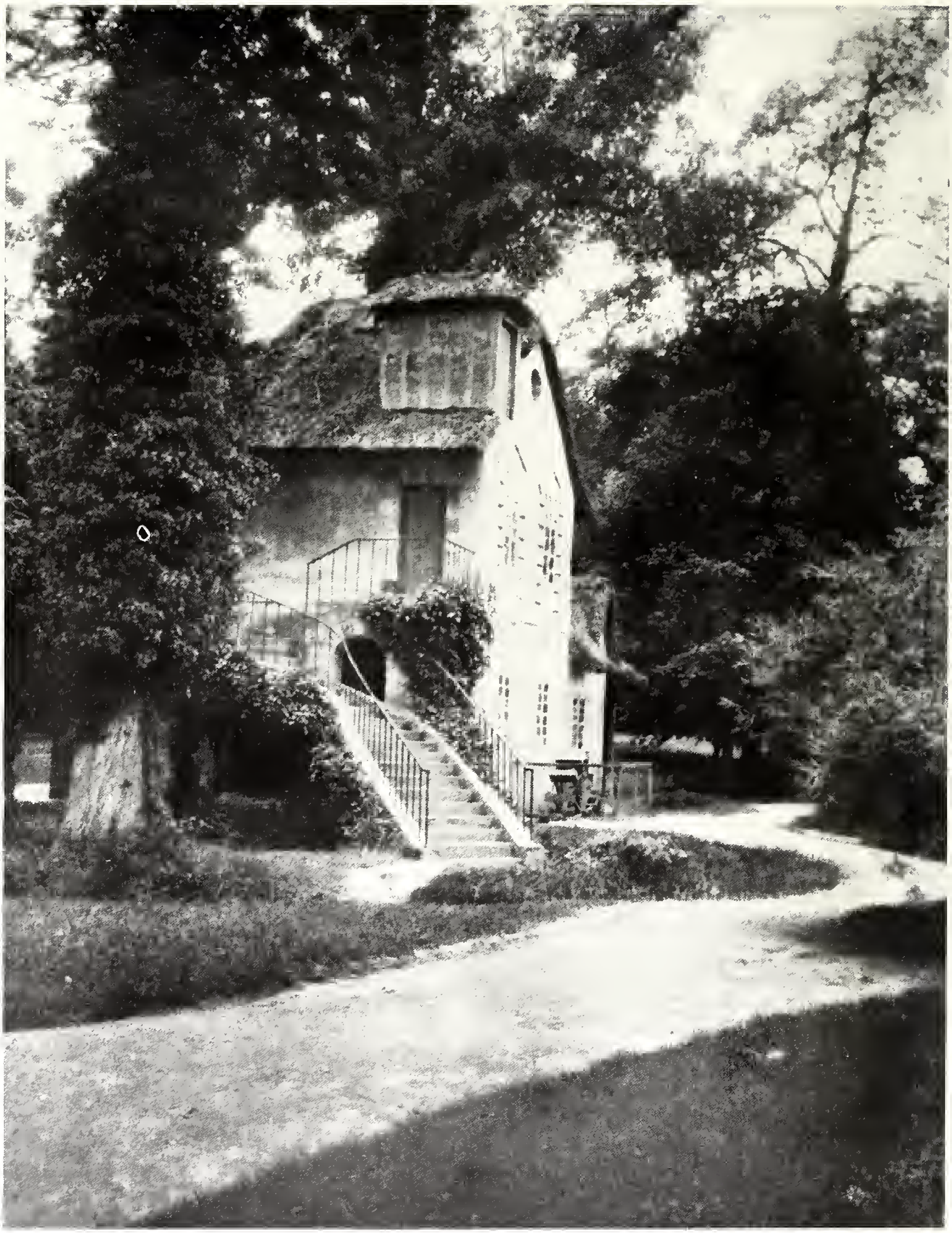

WM. H. PHILLIPS
SOUVENIR — PETIT TRIANON

PHOTO-ERA
The American Journal of Photography

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PHOTOGRAPHY IN JAMAICA

D. CUTHBERT BUTTER

JAMAICA would not be an up-to-date country if it had not its photographers. There are not many in the island, but such as there are, are a credit to the profession, to the colony and to themselves. It is only necessary to mention such names as Duperly, Cleary, Valdés and Brennan in support of this assertion. Indeed, I go further and say that they not only bear favorable comparison with any in the profession, but are superior to many in the West Indies. This has been proved repeatedly by the highest prizes (gold medals) which have been awarded them in various great expositions. Of course the medals are kept elsewhere, but the certificates accompanying them occupy a conspicuous place among the artistic hangings on the walls of the studios, where all who call may see these certificates. And all these men are natives of the island; that is the gratifying feature of it! And when it is considered that they have not, and probably never will have, the advantages of such eminently helpful agencies as practical demonstrations and lectures to advance their artistic knowledge, but have gained that same knowledge by experiment and study on one hand, and by a little insight obtained in a short trip abroad (chiefly to the United States) on the other, I think it will be admitted that they are richly deserving the highest praise, and merit the honor and distinctions they have won for themselves.

Then, too, there is no one in the island to promote photography, or the photographic art, but the local photographers themselves; and how well they have succeeded without the stimulus of help is seen in the class of work they turn out of their studios daily. Their ambition is to be abreast of the times; in other words, to be up-to-date, which in these days of go-a-headness and keen competition is a very essential requisite. Indeed, whilst competition is said to be the soul of trade, to be up-to-date — i.e., to be in possession of all the latest makes and classes of materials and wares, according to the nature of the business of your choice — is to possess an advantage, the value of which as a factor towards progress, prosperity and success, cannot be too highly estimated. If in Shakespeare's time ambition was a sin, I suppose it must still be the same, since "by that sin fell the angel." But photographers are not angels — certainly the Jamaica photographers are not! — although they may be some day.

They are good men in their way, but still not angels yet. But ambitions differ in character, just as do the men themselves who aim at them. In the case of the photographer, however, the public gets the benefit of his ambition, because, like the true artist, his whole heart and soul are in his work, and his ambition lies both in improving that work (thereby giving better value for the money of his patrons) and in promoting and fostering it as an art.

Looking back thirty years, when I can remember anything properly about photography in Jamaica, there were far fewer houses in existence then than now. There were only two, I think; viz., Duperly Bros. (now A. Duperly & Sons) and E. Bavastro. Even at that period photography was successfully practised, both as a profession and as an art. Much more time was absorbed then in "taking a likeness." The instantaneous process was unknown; the system of lighting was not on such scientific principles as at the present day; while the conditions of the studios, etc., presented by no means a comfortable nor inviting appearance. But that was thirty years ago. What changes have taken place since then! Improvement and progress have been the order of the day. Change has taken place and is observable in almost every department of life and work; and having regard to photography, it is worthy of remark that, although such work is executed on more scientific principles than formerly (thereby imparting to it a greater amount of elegance and artistic finish), the cost is less by fully twenty-five per cent. The materials then in use were of American production, and it speaks well for all concerned — the fine workmanship of the artist and the excellent quality of the manufactures — when it can be stated that portraits taken thirty years ago, which have been cared for in no particular way, are still in fairly good condition. At that time amateur photography was "nowhere," and as to strangers coming to the island with pocket cameras and kodaks, as they do now, such a thing was positively unheard of. Nor is this a matter for surprise. Little or nothing was known of Jamaica, either as a health-resort or a field for investment, save in sugar and rum. But better times were in store — the change was to come. And it came. Like a beautiful nymph of Nature's own modeling, that had been long lying asleep in the cradle of apathy on the quiet waters of Despond, fair Jamaica was destined to rise and shine at the call of Time, arm in arm with Energy and Enterprise. She is now known to the world as never before, and the world — or a part of it — has hailed and embraced her as the object of health and beauty, so much to be desired and so long in the finding.

The visitor to Jamaica cannot fail to be impressed by the glories and beauties of nature, if not with the characteristics of the people who inhabit the beautiful island. Indeed, all who have visited Jamaica have formed none but the most favorable impressions, both as regards its unsurpassed scenery of endless variety and magnificence and as regards the character of the people themselves. Coming for the first time, if he has an artistic eye or is of an artistic turn of mind, the visitor will recognize at once that Jamaica is an ideal spot for the photographer and painter. For so it is beyond doubt; but until recent years, when such

PORT ANTONIO HARBOR — JAMAICA

an impetus has been given to the tourist trade by the establishment of direct communication with England and the increasing patronage bestowed on it by the Americans, the local photographer paid little or no attention to landscape photography, probably because it did not pay, since there was but small demand for photographs of the island's scenery. Conditions are altered now, however, and the photographers are keenly alert.

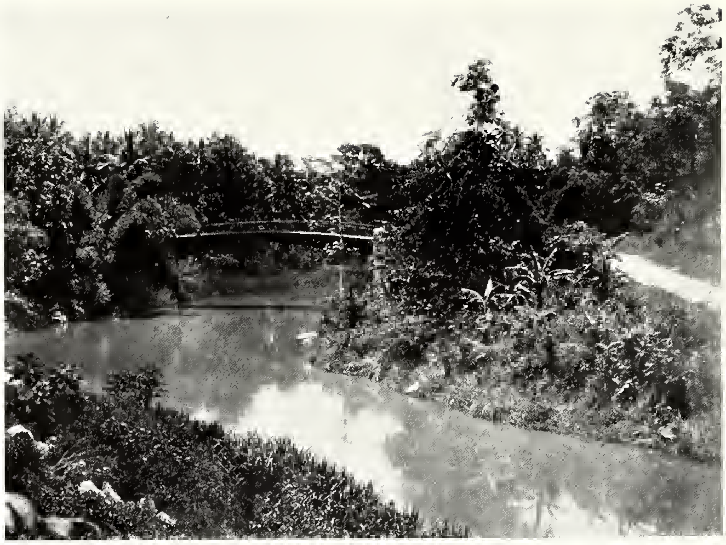
Until the holding of the Jamaica International Exposition, in 1891, Jamaica was little known to the outside world, and still less were her photographers known. That enterprise, however, while it had the effect of advertising the island as a whole, was vastly beneficial to the local photographers by introducing their products to foreign visitors and thereby raising the standard of Jamaica photography. That was fifteen years ago — not a long period, but within that time a great deal may be accomplished, and a great deal has, in truth, been accomplished. To-day it is safe to say that in few places is photography or the photographic art better represented than in the studios of Kingston, Jamaica. Thirty or forty years ago this perhaps could not have been said; but even in the most progressive cities of the world there were not then those improved appliances which have raised the standard of photography to the place it now occupies. What three or four decades ago did not seem possible — because we had no knowledge, or if we had the knowledge then, we did not understand how or in what way to apply it intelligently — is now not only quite possible, but has become an accomplished fact. The powerful forces of thought have prompted experiment; experiment has shown the way to possibility; possibility has resolved itself into reality; and the hard logic of fact and experience, as resulting from these, has imparted that comprehensiveness, wisdom and understanding that nothing else could produce, and which are so absolutely necessary to enable us to achieve eventually the object to which we aspire.

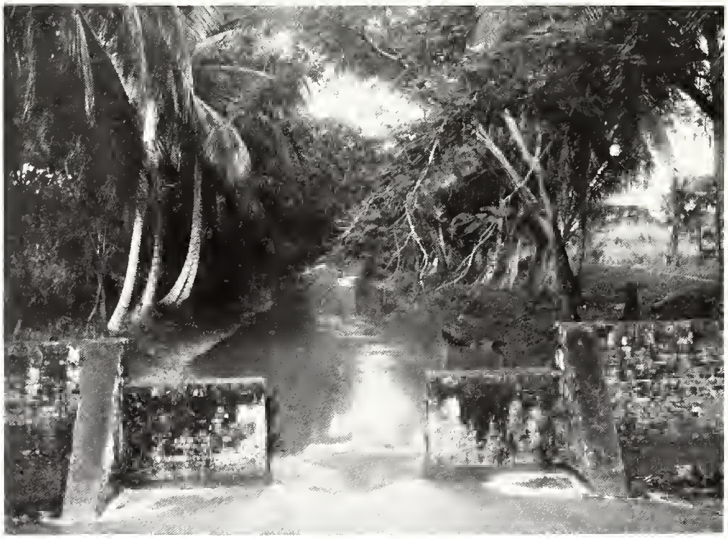
Passing on: whether it is from closer proximity of Jamaica to the United States than to England, or whether it is that photographic materials produced in the great Republic are of a superior quality to those produced in the Mother Country, the fact is evident that, with but a single exception, all the cameras and kodaks in use in Jamaica are of American make. The lenses, however, are all of English manufacture. This is a somewhat peculiar condition, and if we are to draw an inference from it, then it can only be said that the manufacturers of lenses in America have not turned their attention to the market here, or have overlooked it for some reason or other. Every one in this line of business, which is evidently a profitable one, is his own importer, if we except the amateurs; and even they, I believe, do not get all their supplies locally. The Rochester goods are the most popular, and one or two of the "artists" keep a good supply of photographic materials in stock. Such houses as the M. A. Seed Dry-Plate Co., Anthony & Scovill Co., Eastman Kodak Co., the Rochester Optical Co., Chas. Cooper & Co., the Century Company, and Hardcastle & Hardcastle are all represented in the several studios, although, strange to say, no two photographers use a camera of one and the same make. Why this should be so I am unable to say and have never troubled to inquire, since it makes no difference which make is used, so long as the work turned out is satisfactory to all parties concerned.

Messrs. A. Duperly & Sons use the Scovill & Adams Co. pattern in their studio, situated at 85 King Street. Most of the leading galleries are located along that thoroughfare, one of the principal and busiest in Kingston. This firm of photographers is the oldest in Jamaica, having a standing of over fifty years, with a reputation of which it may justly be proud. Owing to the excellence of the work turned out, it also enjoys a very large amount of public favor — indeed, perhaps the largest of any of the firms in Jamaica. Before proceeding further, it may be remarked that, in Jamaica, photographers (with but one exception) occupy the same premises in which their studios are located, no doubt as much for convenience as for economy. The houses are two-storied, commodious, cool and comfortable. In some cases practically the whole of the lower floor and some portion of the upper are given up to the business. This is very nearly the case with the Duperlys. After ascending a flight of broad steps of concrete masonry the visitor finds himself on a spacious balcony, from which he passes into the reception-room. This is a good-sized apartment, but plainly equipped and cannot compare with the finely-furnished private drawing-room above. There are simply a few steam-bent and wicker chairs about the room, with show-cases standing here and there, containing specimens of the artist's work; while on the walls are hung, in massive gilt frames, portraits of every description and pose. A glance around is sufficient to determine the fact that Messrs. Duperly understand their work perfectly, and perform it in that fine, masterly style that has not only made them popular, but has gained for them much honor and distinction at expositions at home and abroad. They are gold medalists. Long, practical experience has made them thoroughly acquainted with the details of their work, and they understand to a nicety all the accessories of their art. The toilet-room, like the reception-room, is also plainly furnished, nothing being shown on the walls; but there is an air of homeliness about the studio, which, added to the genial presence of the proprietor, makes the visitor feel at his ease. This apartment (as are also the posing, washing and dark rooms) is located in a wing of the upper story, reached by a mahogany staircase. The lighting is done by means of a pale green stained-glass roofing and sides, the whole being washed in a hue slightly paler. The color produced is exquisite, resembling that of soft emerald, and the effect is very beautiful; while on the opposite side stands a movable screen painted to represent a storm-cloud with a rift in it, showing a silver lining. This screen is used in taking bust portraits, the Duperlys giving special attention to enlargements in life size. They also develop and print for amateurs and tourists, and make kodak-work a specialty.

At No. 93 King Street is the Valdés Studio, which has been in existence for nearly thirty years. Mr. J. B. Valdés, the former proprietor, died a few years ago in Cuba (his native land), after a long residence in Jamaica. He was a born artist, and brought to bear in his work that rare taste, skill and ability that made him extremely popular with the public and highly esteemed by the profession. He excelled in portrait-work, and was the recipient of several diplomas awarded him in expositions. The business is now carried on by his eldest son, a bright, genial youth of nineteen, who has inherited his father's love and enthusiasm for photography. His work is of a high order, and the public shows its appreciation by the liberal patronage extended to the house. The reception, washing and dark rooms are on the first floor, the toilet and posing rooms, together with a smaller dark-room, are on the upper floor. A feature in connection with this studio is the serving of refreshments (cakes, ices, etc.) to patrons at a small cost. No other studio has gone in for this idea as yet; but it may eventually be generally adopted. The reception-room is utilized for this purpose, and is tastefully laid out with steam-bent chairs and marble-top tables, the windows and doors being draped with white lace curtains. Potted plants are in the windows and on the veranda. A carpet is laid through the centre of the room, and there is a profusion of fragrant flowers in stands and vases. On the walls, in handsome frames, are indisputable evidences of the ability of the photographer. The system of lighting is the same as that previously described.

Mr. J. W. Cleary's studio is at 89 King Street. He has had upwards of a quarter of a century's experience in his profession, and is one of the best pho-





BOG WALK BRIDGE — JAMAICA
RIO COBRE IRRIGATION CANAL — JAMAICA

tographers in Jamaica. It is a pleasure to look over his work. There is here that nameless "something" which claims and holds the admiration of the visitor. Mr. Cleary's work is certainly of a high class, and his *clientele* extends to the military and naval people of the station. Splendid examples of such subjects adorn the walls of his reception-room. He makes group and wedding photography, as well as enlargements, special features of his gallery. Infant photography with him is also a high art, sympathetically approached. The reception-room itself, while not elaborate, is furnished in a tasteful and inviting manner. It is on the first floor, and is certainly the best and most comfortably equipped of any in Kingston. In the centre is a large Brussels carpet, on which stands a Japanese bamboo table with papers and books. At one end of the room is a sofa, while rattan chairs and rockers are scattered about the apartment. Revolving stands and easels, containing examples of Mr. Cleary's work, impart an additional air of beauty to this reception-parlor. The workrooms are in a separate building adjoining, and here again the lighting is done as in the studios previously visited.

Mr. J. W. Chas. Brennan is also a master of the camera, and without doubt one of the ablest exponents of photography in Jamaica. He has had only ten years' experience, however, in taking photographs. Previously, he served for thirteen years in the drafting-office of the Public Works Department in Jamaica, and also in the Imperial Office. He has been described as "the Prince of Jamaica Photographers," and while he may not be undeserving of so high a compliment, he thinks only of his work and of pleasing his numerous patrons, who include the best class of society. He excels in landscape photography quite as much as he does in portrait-work; and, although he does not deal in kodaks, he makes kodak-work one of the features of his studio. His reception-room is not large, but it is neatly laid out, with easy-chairs, couches, etc., the walls being relieved by some interesting bits of his work. On the left is the toilet-room, while on the opposite hand are the posing and dark-rooms. The other operating-departments are on the lower floor. The "Imperial" camera and Ross lens are used in this studio, the lighting of which, to quote Mr. Brennan, "is done on scientific and artistic principles, after years of study." The roofing is of glass, as usual; spring screens or curtains, about six feet in length and eighteen inches wide, cover the whole of the inner surface, while at the side, where glass is also used, stands a good-sized screen on the floor, constructed of separate pieces of cloth, run on horizontal wires. These can be shifted to any position to increase or diminish the light. The result of this arrangement of the light is clearly apparent in the artistic treasures which adorn the walls of the studio. Every picture is indicative of good workmanship and an understanding of the principles of lighting. This house secured the highest award this year for Jamaica photography at the Colonial and Indian Exposition at the Crystal Palace, London. Mr. Brennan is a very genial fellow, his frank, debonnair face and open manner inviting the confidence of his visitors. He is also a man of some culture. "We make this studio the rendez-vous for American tourists," he said to me the other day — an invitation that will, no doubt, be accepted by many visitors this season.

In Mr. Ewart E. Cox, whose studio is at 81 Harbor Street, Jamaica has a most promising young professional. He studied at the Polytechnic, Regent Street, London, and uses a Ross camera and lens; he is the exception referred to previously as having an English camera in use. Mr. Cox, who is still a young man, has had only a few months of practical work in Jamaica; but what he has done betrays considerable ability and taste.

The "Jamaica Camera Exchange," the Whitney Studio, is across the street from Mr. Cox's gallery. The proprietor, Dr. C. N. Whitney, is an American by birth, but has for a number of years been a resident in the island. It is not for me to question why he has abandoned the practice of medicine for that of photography; but possibly he has developed a better taste for the latter, as many others have done before him. He is certainly in the front rank of Jamaica photographers. He uses the Century camera, manufactured in Rochester, with Taylor, Taylor & Hobson's lens, of Leicester and London. In addition to his studio, he keeps photographic supplies in stock from the Eastman Kodak Co., this being the only supply-store in Kingston.

I have hitherto written of the professional photographers; there are also a good many amateurs in the island, but, with the exception of two, their work is little known to me. These amateurs reside chiefly in the country towns, where they practise with more or less success. The two with whom I am acquainted accomplish very creditable work indeed. [Most of the studios described in this article were seriously damaged, but are in process of reconstruction.—EDITORS.]

* * *

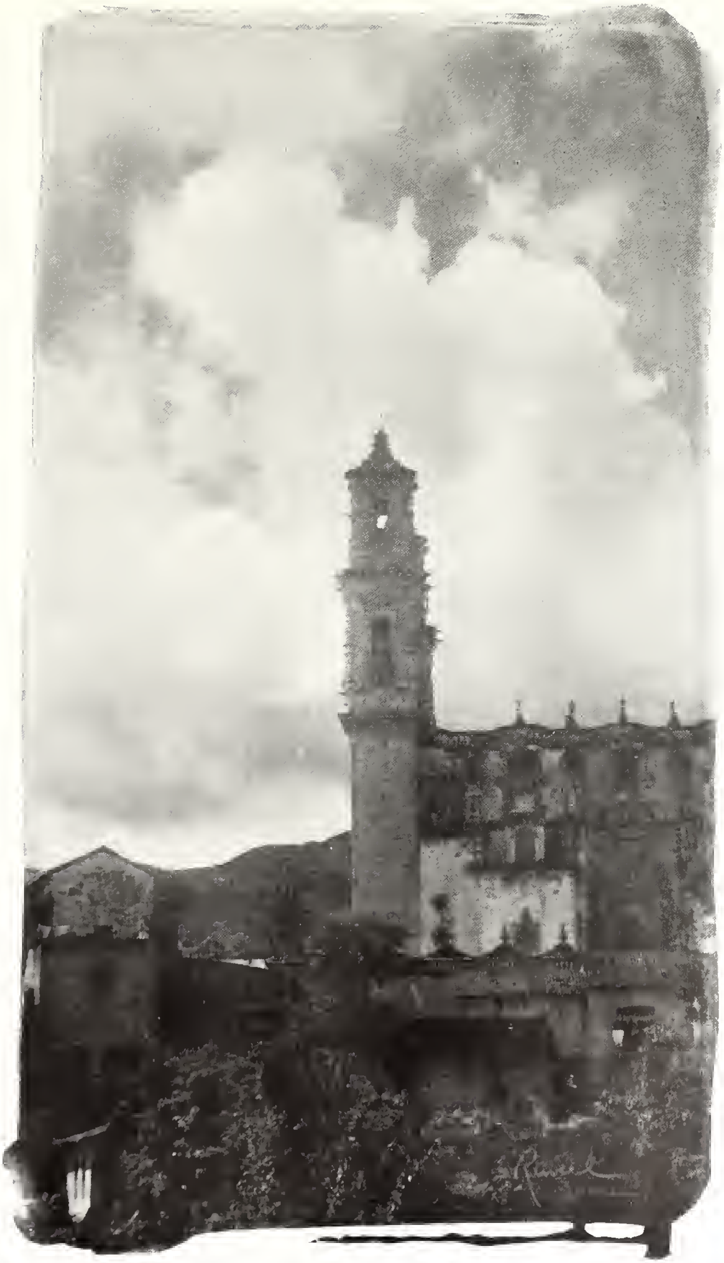
PHOTOGRAPHY IN ADVERTISING

FREDERICK FELIX

(Prize Winner — Literary Competition)

NOTHING is more valuable in an advertisement than an illustration. High-class work is, of course, most effective, yet a poor engraving is usually preferable to none as a means of attracting attention and extending an idea at first glance. The wonderful growth of illustrating advertisements is apparent to everybody, and is in itself the best proof of its effective value.

Almost every one will concede the full value of illustrations if appropriate and well selected. Almost everything depends upon the quality of the illustration for its effectiveness, hence to produce the best effect is the thing to be desired. Photography stands ready to meet every demand in the way of giving adequate expression to practically every idea that is to be conveyed. The rather recent perfection of half-tone photo-engraving solves all the difficulties of illustration. Formerly everything in the way of a printed picture had to be drawn by the engraving artist, either from a sketch or from a photograph. The re-



H. RAVELL
A CHURCH TOWER IN MEXICO

sults in many instances showed marvelous skill, but modern photo-engraving work surpasses the effort in nearly every instance. The photo-engraving reproduces the object as it is, and no human skill can improve upon some of the perfect reproductions for accuracy and truthfulness. Previously, the individuality of the workman had to be taken into consideration, and the engraving reflected his degree of ability. Now the half-tone photo-engraving puts in printed form exactly what is seen in nature or on the photographic plate.

The improvements in the photo-engraving processes have been many, and the end is not yet. At one time the effect was lacking unless the photographic copy, from which the photographing engraver had to work, was perfection; and even then, as in the case of many mechanical and similar subjects, it was found better to choose the wood-engraving process to best produce the full effect. One of the advances is a method by which a photo-engraving which might otherwise be indistinct in certain shaded portions can be "tooled" and brought out with a clearness which retains all the advantages of the half-tone and adds those of the wood-engraving where needed.

This process of manipulating the copy in advance of making the engraving, and of "tooling" the engraving after it is etched by the photographic method, makes photography preëminently the means to be considered for transferring any likeness or idea into printed form. And just as photography is unexcelled in reproducing the beauty of a piece of magnificent scenery or of the creation of an artist, so it becomes most effective as a means to aid the advertiser in appearing to the best advantage before his reading patrons. Unquestionably the best investment an advertiser may make is for illustrations. Everything is susceptible to illustration — from toothpicks to life insurance, and from doorknobs to automobiles. A column may be taken for description, and it would not be a fraction so effective as an illustration taking up two inches of the same space.

The advertising pages of the modern publication have grown, through the means of photography, to such a point that they interest the average person as much as do the other sections. The photo-engravings have done it. There is a pleasure in looking at a beautiful specimen of photo-engraving, even though the advertisement be entirely out of the line of the person who sees it. It would be entirely possible for a lady to become interested in the appearance and advantages of a dredging-machine by reason of effective illustrated advertising, and that very interest, brought about by the illustration, could operate to the benefit of the advertiser in some way. The lady would hardly be supposed to be in the market for a dredging-machine, yet the favorable impression received by a fine photographic reproduction could be communicated to others, at some time, who might be the ones to prove ultimate patrons of the advertiser. The possibilities along this line are easily discernible.

There is no better method of conveying an idea than by illustration, and it has been so from the beginning of the human race. The hieroglyphics of the prehistoric obelisks show how convincing illustrations have been from the

E. R. JACKSON A YOUNG NAPOLEON

very first. The same reason that made the depiction of people in various styles of action effective when carried out with the rude chisel of the early engraver on stone makes the modern high-class half-tone photo-engraving equally effective. An engraving of any kind gives an idea that may be grasped instantly by young or old, simple or learned, and saves the trouble of going through a lengthy text for the same effect, which even then would, very likely, fall short.

That any kind of an illustration seems to be better than none is proven by the success of the crudities offered by the Sunday papers. The children are supposed to enjoy them exclusively, but when the truth is told it will be found that as many adults reap benefits. But that better classes of illustrating are effective in proportion is shown by the magnificent volumes of the bookmaker's art which are sold by means of the illustrations, and the high-class illustrated magazines, periodicals, etc., which sell principally because of being finely illustrated.

All this is a suggestion to the advertiser to adopt illustrations. And when he decides to adopt them he should surely select the kind that takes a photograph and reproduces it exactly as it is. The ease with which photographs of any kind may now be procured, and the low prices quoted by reliable houses for turning them into attractive, convincing engravings, suitable for any kind of an advertising proposition, should appeal to every one and make photography and advertising practically inseparable.

OZOBROME FOR POTTERY DECORATION

A Record of an Experiment

William Findlay

The September issue of PHOTO-ERA *contained the working-instructions for the Ozobrome Process, with additional comments by E. W. Foxlee; while the November issue contained a lecture on the process by Rev. H. W. Dick, together with additional notes issued by the Ozotype Company after their first instructions had been published. Full information regarding the necessary materials for working the process were also given. We feel confident that the present article, by Mr. Findlay, will suggest many possibilities for decorative work.*—EDITORS.

WHEN one has devoted a large amount of time, money and patience in an endeavor to master the intricacies of a certain photographic process, it is not a little galling to be confronted with the fact that a method of securing the same end in a simpler, safer and more expeditious manner has been put upon the market. I refer, of course, to the carbon process, and to Mr. Manley's Ozobrome process, which readers of these pages have had put before them, and which has caused quite a flutter in the dovecotes of photographic circles.

The carbon process was considered *the* perfect photographic process in which the most artistic results were to be secured, and although the Ozobrome process may be rightly considered a distinct method in itself, there are those who say that it is simply a modification of the older form. The guaranty of permanence attached to carbon work can also be given to that produced by its lusty offspring.

Personally, after reading of the Ozobrome process, I was inclined to question its alleged miraculous powers. Having tried it, I unhesitatingly withdraw the first adjective. My first experiment was to try its applicability to lantern-slide work, and the results exceeded all expectations. Then I tried to get a carbon copy off a bromide enlargement. In this, success — after one ignoble failure — was also gained. I then thought of its adaptation to decorating pottery. Here some difficulties had to be overcome, but after a few failures and the exercise of a little perseverance they were successfully surmounted. The recital of these difficulties, and the methods of overcoming them, may be of interest to readers of this article, and, should they care to follow in my footsteps, they may shun the pitfalls where I have left a danger-post.

I saw in a china-shop, one day, a plate with a beautiful blue border. My companion remarked that one of my photographs in blue carbon, placed in the centre, might enhance its beauty. The suggestion was dismissed as impracticable. However, when doing some lantern-slides by the Ozobrome process the thought came into my mind, "Could not this picture, with equal facility, be transferred to the plate?" I could not get the thought from my mind except by one method, and that was a practical experiment. One of the ordinary household plates was requisitioned for the purpose. A gaslight print was taken

J. H. FIELD THE RIVER

J. ELIOT DAVISON THE OLD APPLE-TREE

from a negative, a circle mask, such as is used in lantern-slide work, being placed between the glass and the paper. It is well to leave a good margin of white around the circle. This performs the part of the "safe-edge," which is as necessary for Ozobrome as for carbon. This was developed, fixed and washed. When the hypo had been eliminated the Ozobrome pigmenting-solution was mixed in the necessary proportions and placed in a dish. A piece of pigment plaster — marine blue was the color chosen — the same size as the paper was cut and immersed in the solution till quite limp. It was then taken from the bath, placed face upwards on a piece of plate-glass. The print was lifted from the washing-water and placed on top of this, face downwards of course, and gently squeegeed into contact. The two together were then placed between sheets of damp blotting-paper and a sufficient time allowed for the print to trans-

H. RAVELL AN OLD MILL

fer itself to the pigment — half an hour is about sufficient. (Some workers omit this and simply lay the print and pigment on a table and allow them to gain a certain dryness. This is all very well if they do not get too dry, for then there is a difficulty in separating them.) When it is thought that sufficient time has been allowed for the miracle to work, both are plunged into water and under it they are separated. It will be found that the print is almost non-existent, but it can be redeveloped with metol-quinol, amidol, rodinal or any other developer used for gaslight prints. Fixing is not necessary, but a good washing is. The print can then be used for the same purpose again.

The pigment plaster was then squeegeed onto the centre of the plate, a piece of dry blotting-paper was placed on top, above that a lantern-slide cover-glass, and above that again as much weight as it was possible to put on. The "weight" I used was an enamelled basin full of water. Under this pressure the plate with the adhering pigment was left for twenty minutes to allow of proper adhesion. At the expiration of this time the weight and other paraphernalia were removed, luke-warm water was poured into the plate, and developments awaited with keen interest. No oozing of the color from the side of the backing-paper taking place within a reasonable period, slightly warmer water was used, and the desired effect took place at once. The backing-paper was then removed with ease, and the unaffected pigment came away beautifully. The picture was there all right, but as the dish was rocked to and fro to facilitate development the affected pigment began to peel off, and the experiment was a failure. Another was tried, and a longer time under pressure was allowed, but a similar result was to be chronicled. When the pigment plaster stuck nicely to glass without any substratum it was curious that it should not do the same to stoneware. A close examination, however, revealed the fact that there were inequalities in the surface, and this accounted for the failure.

It was quite evident, therefore, that a substratum was necessary, and the centre of the plate was coated with negative varnish, and when it was considered dry — about an hour afterwards — another trial was made. Failure was again in store, though the peeling off was not so pronounced. Another plate was coated with the varnish, and left for a night to harden. The same procedure recorded was gone through, and a beautiful picture resulted. The safe-edge, represented by the white margin around the pink, showed plainly, and it was necessary to get rid of this. A wet cloth was wrapped around the forefinger, and the circle was carefully gone round with the nail. The varnish came away quite easily at first, but as it began to dry it became more difficult. The finger with the cloth adhering was dipped in methylated spirit, and with that the remaining safe-edge came away quite easily.

A solution of alum was then placed in the plate, and left for half an hour. This acted as a fixing and hardening bath, and eliminated any traces of bichromate, which is one of the constituents of the pigmenting-solution. The plate was then placed on a shelf in a warm room, and in an hour or two was quite dry.

The proceedings were now complete, but there remained the possibility of injury to the picture when the plate was dusted — washing this particular part would be fatal to its beauty. This was overcome by applying picture-varnish to the print. When applied, a rather streaky appearance presented itself, but in the drying-process this vanished.

It is quite possible that if one could secure an unglazed plate the substratum of negative varnish could be dispensed with; but as to the pigment withstanding the heat necessary in the future glazing-process, I am not in a position at present to say.

For purely decorative purposes, however, what I have haltingly related is well worthy of a trial by readers of these pages, and I can assure them that much enjoyment in carrying out the work is in store for them; and that their efforts will be a pleasure to look upon both by themselves and their friends.

A word, in conclusion, as to the choice of colors. A sea-green pigment makes an excellent medium for representing a landscape; it can also be used for seascapes. Red chalk gives as correct a rendering of a sunset as is possible. But what I consider the best color, and in which most of the experiments here recorded have been made, is marine blue. The pigment seems to have more depth than any others I have tried. Seascapes, which on the print looked commonplace, have, in this color, taken on a new beauty, and in snow scenes one can almost imagine he sees the sparkle of the snow, the substratum of negative varnish giving this effect.

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WATER DEVELOPMENT

ANTHONY J. PRESTON

EVERY amateur photographer with any ambition aspires to portraiture very soon after learning to use a camera. Now portraiture is a stumbling-block and a rock of offence. Even the professional photographer, with a well-appointed studio, in which he can arrange the light as best suits each individual subject, and where he is most familiar with every part of the apparatus connected with his particular branch of the photographic art, is often hard put to it to produce a really satisfactory portrait. The amateur has in most cases to make the best of whatever surroundings he happens to be in; sometimes his "studio" is a back yard, sometimes a badly illuminated room or an open glade in a wood, and, in any case, his camera is not particularly adapted for portrait work, and his lens does not, as a rule, give that softness so essential to good work of this class.

Seeing that this is the case, the amateur's difficulties are far more numerous than the professional photographer's, and any advice or hint tending to overcome any difficult point becomes very acceptable.

Regarding what may be called the preliminary arrangements, such as arranging the costumes of the sitters and the composition of the picture generally, I will say nothing. This is a matter I will leave to more able pens. There is a difficulty, however, which occurs afterwards, and which causes a great deal of trouble to the photographer and disappointment to his model, and upon this difficulty I should like to give a hint to my brother camerists. Now the greater number of our sitters are ladies — at least, it is ladies who want to see a print; one rarely bothers to print from negatives for our male friends. Furthermore, ladies have a habit of decking themselves in wonderful arrangements called blouses and with yards of filmy material which I am under the impression is called chiffon. These decorations are usually white, and although they appear so enchanting to the eye, are none the less a source of worry to the camera-man.

Who has not photographed a charming little thing in muslin, with a mass of intricate detail in her white dress, only to find on printing that all the detail has

THOMAS A. MORGAN SUNLIGHT AND SHADOW

been lost, and the model to all intents and purposes arrayed in pieces of white paper? This state of affairs is brought about by two always closely associated operations, exposure and development, and it is regarding these two operations that I want to give a few simple instructions. If the photographer will read them carefully and carry them out with patience, I am confident that he will find no further difficulty in the rendering of detail in white dresses.

Well now, having posed your model satisfactorily, the next thing to do is to focus up. Personally, I focus with a fairly small stop — say, f/22 — disregarding for the particular business in hand the usual directions about always focusing with the lens at open aperture. When the image is sharp open the lens to full aperture. The small aperture enables one to get easily all the fine detail sharp, and the subsequent enlarging of the diaphragm tones down the image just sufficient to make the resulting negative soft, and to preserve the contour of the face and limbs.

The exposure should be rather long, say half a second on a fast plate in a good, diffused light when outdoors, or from two to three seconds indoors, according to the amount of light available. The next step is, of course, development, and this requires extreme care.

Take the ordinary two-solution developer, say pyro-soda or metol-quinol, and dilute with its own volume of water; now add half as much of the No. 2 (accelerating) solution as was originally used, and a few drops of ten per cent potass. bromide solution. Commence development, and watch carefully; the exposure being so long, the image soon makes its appearance and as soon as the whole of it is visible take the plate out of the developer and immerse it in a dish of clean cold water; cover the dish with a piece of cardboard, and rock. In a few minutes the plate may be examined, and it will be found that development is going on very gradually and without clogging any detail. Cover the dish again, and continue to rock patiently until the image is of sufficient density; then rinse in water and fix.

Occasionally it may be found that although all the detail is out the negative refuses to attain the requisite printing-density. When this happens, pour the water away and flood over for a minute or two with the developer. This will soon bring up the density, but it is a course not to be adopted except as a last resource. As a general rule, quite enough density will be obtained without a second application of the developer.

This process of development, of course, takes considerably longer than the usual method, but the quality of the negative is ample recompense for the extra trouble, and, what is of equal importance, the sitter will be pleased with the print. Not only is the detail of the costume preserved, but the whole negative is a great improvement on the ordinary run of portrait negatives. The eyes and hair, for instance, will be far better rendered.

I have used this process exclusively for portraits for some years, and I can strongly recommend it to all those photographers who aim at a pictorial portrait.

The plate best suited for the purpose of portraiture by this method is one having a speed of about 200 H. and D., and should preferably be backed. Orthochromatic plates are not usually an advantage, except in cases where the sitter has a freckled face or auburn hair, when they will be found most useful. — *The Amateur Photographer, London.*

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NOTES ON FLASHLIGHT PORTRAITURE

F. J. MORTIMER, F. R. P. S.

IT is assumed that a general knowledge of photography is present. The photographer before attempting flashlight work for the first time should at least know how to focus, correctly expose and develop a plate. Also, no mistaken idea should exist as to the powers of the flashlight to do more than daylight would under similar circumstances.

To start at the beginning, therefore, a general rule to be observed is that, apart from the actinic value of the light used, the most successful and pleasing effects are always obtained if the conditions, as regards the direction of the light, are made similar to those followed in daylight portraiture. Ninety per cent of flashlight negatives are of portrait or figure subjects. Eighty of these ninety can usually be recognized immediately as flashlight productions, and their characteristics are not in their favor. They appear harshly lit, with crude shadows and hard cut-out outlines. Why is this? Simply because the methods of lighting that would have been employed had daylight been the illuminant have been ignored when flashlight has been the source of illumination.

Were it possible to focus the subject on the ground-glass, illuminated by the actual flashlight, these errors of lighting would not occur. Experience, therefore, will be the chief guide for the flashlight photographer, and a method of trial and error his most practical instructor.

The light may take the form of either a flash-lamp or a flashlight mixture — ignited by the application of a spark or flame.

Magnesium is usually the base of most descriptions of flashlight. Magnesium wire or ribbon is of very little use for the purpose, as it burns but slowly and its illuminating-powers are restricted. In the form of powder or dust, magnesium burns very rapidly when brought into contact with a flame, and gives an intense white light. It can be made to burn even more rapidly and completely if intimately mixed with some chemical substance rich in oxygen, such as chlorate of potash; but as these mixtures really constitute explosives, they should be treated differently from plain magnesium powder, and *never* used in a flash-lamp.

The best form of flash-lamp for general purposes is that known as the "blow-through." A reservoir contains a supply of pure magnesium powder. A sufficient quantity of this powder to make the flash is blown through a flame. The flame is formed by burning cotton wick or other suitable substance soaked in methylated spirit, and is attached to the orifice through which the magnesium is blown. Pressure on a pneumatic ball attached by a tube to the reservoir serves to blow a charge of the powder into the flame to make the necessary flash. With some lamps an accumulator for the air, similar to that on the familiar scent spray, is used to drive a continuous stream of magnesium into the flame and so produce a prolonged light. The application of a lighted taper to a flashlight mixture causes a brilliant and instantaneous flash, but to ensure the best result the mixture should be spread on a train of guncotton. Guncotton or pyroxylin is sold by most photographic dealers and chemists, and is quite safe to handle under ordinary conditions. Its use is advocated as not only ensuring a more complete combustion of the flash mixture, but also because the best results are obtained when the light is spread over a broad area. The flash is also more rapid. Plain magnesium may also be fired with a lighted match if spread on guncotton, but the flash is not so quick or so brilliant as with the mixture.

This extension of the flash is a point that cannot be too strongly urged if the best lighting is desired. For this reason two flashlights placed in the proper positions for correct lighting and fired simultaneously give finer results than one light only. Experience will soon teach that a single light of small area, no matter how brilliant, will give harsh shadows and pictures, lacking the desirable roundness and gradation. Therefore, the employment of one main flash and a smaller one at a distance of a yard or two is advised, in order to get more detail in the shadows and add roundness and "modeling" to the portrait. To a

H. RAVELL

VIGA CANAL

certain extent the same result can be obtained with less trouble with a single broad flash by employing a long train of guncotton on which is spread a layer of the flash-powder.

The position of the light is always a difficult question, but it may be taken as a general rule that an angle of 45° should be followed as regards height and distance from the sitter, while the position of the light in front or behind depends on the type of portrait required. An imaginary square should be drawn thus: the head of the sitter S should occupy a bottom corner. The best average lighting will be obtained by the light being placed anywhere on the diagonal drawn from the head to the opposite corner. It should be borne in mind, however, that the nearer the light is to the sitter the harsher the shadows will be, while the further off it is — provided the quantity of powder is increased proportionately — the greater the possibilities will be for diffusing it.

The colors of walls and decorations in a room, also the color of the dress of the sitter, have a bearing on the quantity of flash-powder necessary, and it is advisable to double the powder in case dark colors prevail. Before fixing on the position of the light when making a flashlight portrait it is a good plan to use a portable light, such as a good oil-lamp, and study the sitter under different conditions of lighting. All other lights should be turned down in the room, and the effect produced on the sitter when viewed from the standpoint of the lens by placing the lamp at different points will be approximately the same as that produced by the flashlight. A little higher or lower will make a great dea, of difference with some portraits. In case of deep-set eyes or hollow cheeksl do not place the light too high; but in taking a group it is desirable to have the light as high as possible, so that any shadows cast by one person will not fall on the next. In any case, the position of the light should be such that the effect will resemble as closely as possible the lighting from a studio skylight, and the little diagram given above indicates roughly what this angle should be.

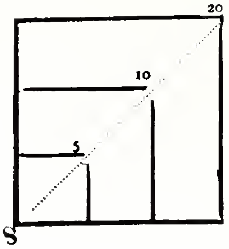


Fig. 1

The relative positions of sitter, flashlight and camera are indicated in the following diagrams. Fig. 2 shows a good arrangement for the production of a pleasingly lit portrait: 1 is the camera; 2, the sitter; 3, the background, if one is used (placed about four feet behind the sitter); 4, the flashlight (eight feet above the floor if possible); 5, a small screen placed to prevent direct light entering the lens from lamp; 6, a reflector to lighten the shadow side of face, *e.g.*, a piece of white card or paper, or a sheet thrown over a clotheshorse or other convenient holder. If flash-powder is used, a tin tray or lid of biscuit-box forms a good receptacle, and the guncotton train should be spread from side to side. A high pair of steps will answer as a support for the tray, and if a little of the guncotton protrudes over the edge this can be ignited with a lighted taper when

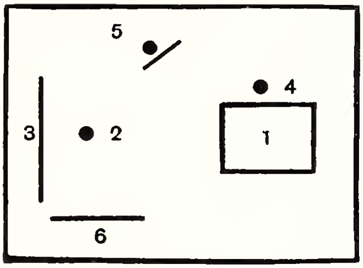


Fig. 2

all is ready. Care should be taken, however, not to put the flashlight too near the ceiling. The sitter, after being posed — in any case, *not* looking at the light (a pleasing effect is obtained by looking at the reflector (6) and allowing the direct light to fall on back of head) — is focused by the aid of a lighted taper or candle held by the sitter near his face, which can then be seen distinctly on the focusing-screen. Use the largest possible stop giving reasonable definition — say f/8. Let off the flash — the lens remaining uncapped during the entire operation of inserting the dark slide and pulling out shutter — and with from ten to twenty grains of flashlight-mixture or a firm, quick pressure on the bulb of the blow-through lamp, a good portrait should be obtained.

The exact amount of flash-powder necessary for producing perfect results depends upon four conditions: the speed of lens; the color of the object photographed and the surroundings; the speed of plate; and the distance of the light from sitter. The following will be found a guide when a rapid plate, say 200 Watkins, is used, the lens working at f/8, the sitter wearing moderately light clothes, and the walls of the room not being very dark. At a distance of five feet from the head of the sitter use twelve grains of flashlight-mixture; at a distance of ten feet use thirty grains; at fifteen feet use seventy grains; and at twenty feet use one hundred grains. It is advisable under all circumstances to employ rapid plates for flashlight work; in fact, the more rapid they are the better, if soft results are desired. They should be backed to avoid any chance of halation from white collars or drapery, etc., and orthochromatic plates possess advantages if the subject has a pronounced color, or freckles, although the use of a color-screen is rather out of the question for the average worker of flashlight portraiture.

The question of smoke is always to be considered, and no flash-lamp or flashlight-mixture has yet been made which, if used unconfined, does not create a great amount. This is a nuisance, and a serious drawback if a second or third attempt is desired soon after the first, as it is impossible to get a clear picture through the haze. Windows and doors should therefore be promptly opened after the flash and a draught encouraged, to clear the air quickly.

A method of trapping the smoke is to be recommended if much work is done, and some such device as the following can be employed: a large tin biscuit-box is obtained and the lid removed. The box is used on its side with the open end pointed at the sitter. A small metal tray is suspended from the roof of the inside of the box, and upon the tray is placed the charge of guncotton and magnesium, or flash-powder. A sheet of glass should be made to slide in front of the box; or if the middle of the lid is cut away, leaving only the rim, this can be used to hold the glass. A small flap door should be made at the back, opening outwards to allow the expulsion of air after the flash has occurred. The powder is fired by means of a lighted taper inserted through a small hole in the side of the box. Immediately after the flash the flap door should be tightly closed, the box removed to the open air, and the smoke allowed to escape.

It is desirable to use two flashlights whenever possible. The accompanying diagram will show the relative position of the two lights to give a good result. Here 1 is the camera; 2, the sitter; 3, background; 4, the subsidiary light — which may be placed on top of the camera; 5, the main light, say eight or ten feet high, fairly near the sitter and screened from the lens; and 6, a reflector.

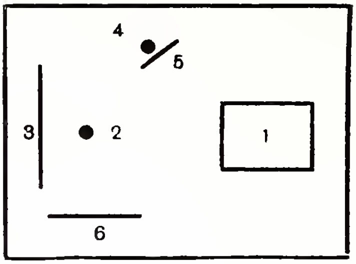


Fig. 3

When the flashlight is placed on or near the camera, see that the apparatus is well covered with a paper or cloth — *not* the focusing-cloth — or magnesium dust will settle and cause trouble.

To secure the so-called Rembrandt effect of lighting, the following arrangement is necessary, and a profile portrait will give the most pleasing result. Here 1 is the camera, 2 the sitter, 3 the background, and 4 the light — placed about four feet to the left, about one foot behind, and about three feet above the head of the subject. No reflector is necessary for this style of lighting, but a piece of cheesecloth stretched on a light frame can be used in front of the light to diffuse it, and, indeed, can be used with advantage with all other forms of flashlight portraiture.

Care should always be taken that the flash is not reflected into the lens. The best way to obviate any chance of this happening is to fix to the lens a funnel-shaped hood or cone painted dead black inside.

Reflections from pictures or mirrors should also be watched for, as foggy negatives frequently arise from this cause.

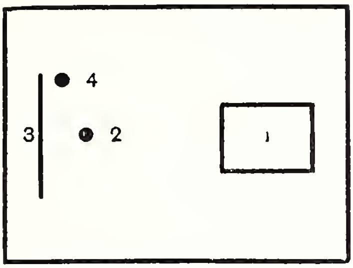


Fig. 4

For focusing, and during the actual exposure, keep all the lights in the room full on, taking care that none is included in the picture; the lens-cap or shutter is therefore not required at all. When focusing a group, or a room, or machinery, etc., a number of lighted tapers or night lights should be placed to mark the boundaries of the subject; and also, if they are placed at other points as well, they are useful for obtaining sharp focus. These latter must, of course, be removed before putting the plate in the camera and exposing.

A tripod camera with focusing-adjustments is far more likely to give satisfactory results than the box-form fixed-focus variety. The better the quality of the lens and the larger the aperture it works at satisfactorily the more chance the flashlight will have of giving a fully-exposed picture.

The development of flashlight negatives calls for much the same attention that hand-camera snap-shots require. A developer readily giving an image free from hardness is to be recommended, and a well-diluted pyro-metol formula, as follows, has given good results in my hands. Use equal parts of each.

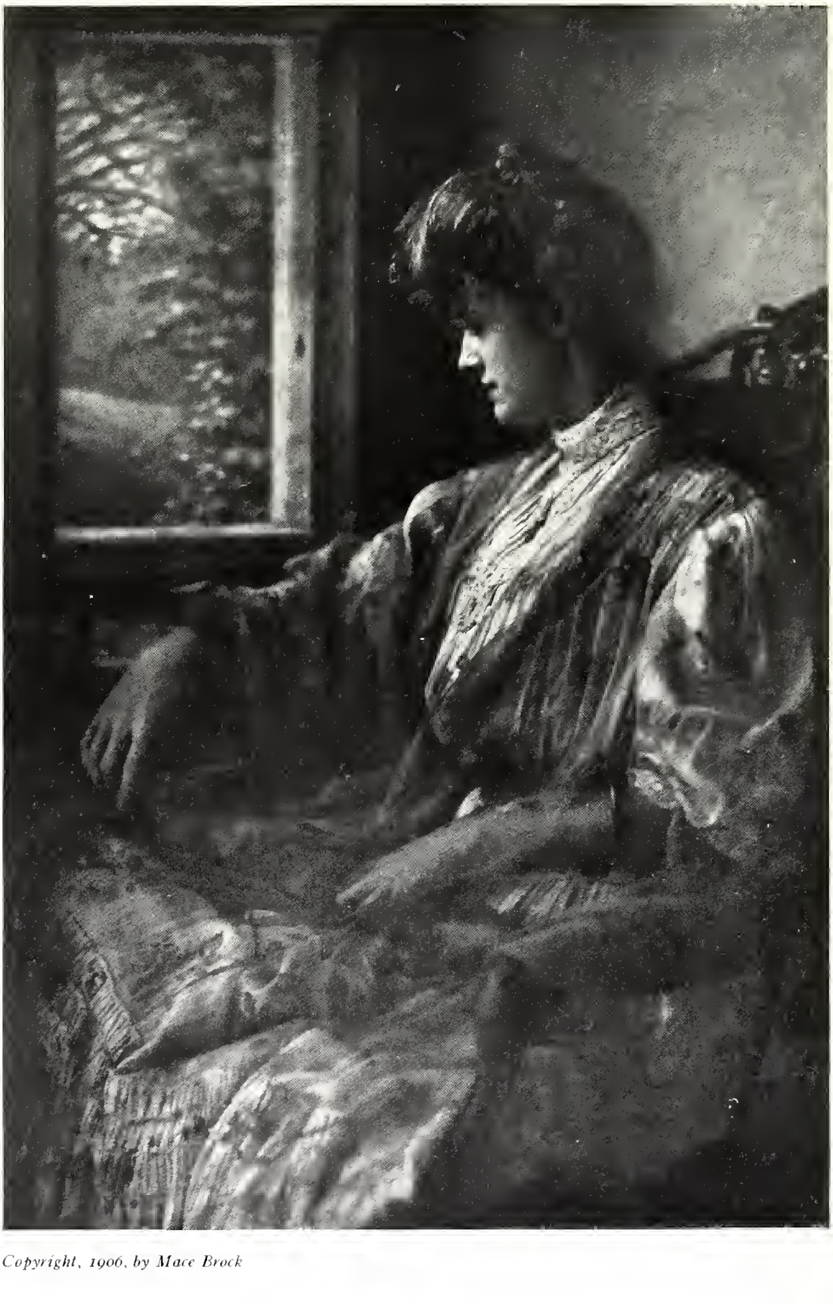
A

Pyro	50	grains
Metol	50	“
Metabisulphite of potash	120	“
Bromide of potash	20	“
Water	40	ounces

B

Carbonate of soda	4	ounces
Water	40	“

—*The Practical Photographer, No 20.*



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REVERY
PRIZE WINNER, SPECIAL PORTRAIT COMPETITION

MARS AND RECENT RESEARCHES

JOHN RITCHIE, JR.

[*Concluded*]

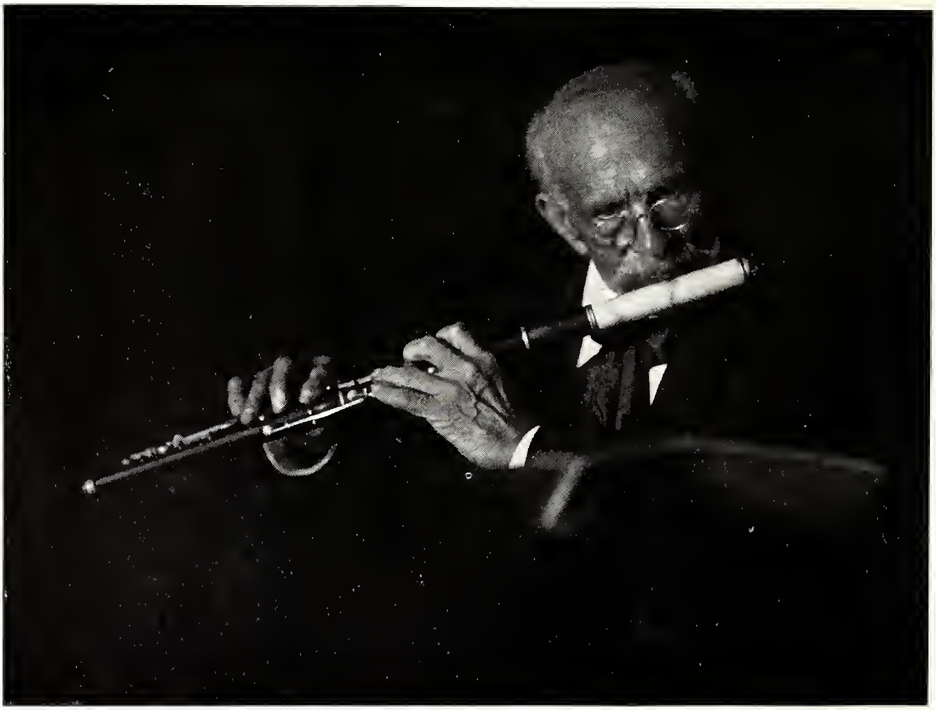
NO better exposition of Mr. Lowell's work on Mars can be made than the presentation of a brief review of the lectures given by him this winter in the courses of the Lowell Institute. The series, it may be said, was an assembling of the facts that are known about Mars, which lead up to the belief that Mars is inhabited by intelligent beings. Further than this Mr. Lowell did not go. He made no attempt to imagine what they might be like, but contented himself with the setting forth of evidence that intelligence does exist on our neighboring planet.

The line of argument was first on the scarcity of water, next on the collection of snows at the poles as being the only supply, then on the climate, showing that life would not be impossible. Then there was a consideration of the topography, showing that the construction of waterways is not impossible, by reason of great differences of level. Then, finally, there was a consideration of the phenomena of the canals, connecting them with an intelligent purpose of the Martians to make the snow of the poles, melted by the summer sun, the source available for water all over the surface of the planet. The line of this argument is interesting to thinking men, so it is here given in some detail.

"Separated from our earth by the soundless ocean of space," said Mr. Lowell in broaching the subject of Mars, "there circles like it about the sun another body formed by the same forces and differing from the world upon which we live primarily in size. Being neighbor to us in the original meteoric plenum, it offers all the assurance of having been initially formed of like material." This point of common origin in material was the basis of the argument, and upon it depends our assumption of the story of Mars from what we have been able to observe of the behaviour of like materials upon our own earth. In the same way the observation of Mars is to an extent prophetic, since from observations of it we may to an extent predict what will be the fate of the earth in ages to come.

Mars has a diameter about one-half that of the earth, a mass or weight of about one-ninth, and gravity at its surface is about .38 of gravity here. The day is forty-one minutes longer than ours, the year is twice as long, and the inclination of the axis to the plane of the ecliptic, not very different from our own. The latter of these facts shows that Mars, so far as seasonal change is concerned, is favorable to life. The seasons are twice as long as ours, and this length is rather important in view of an amount of heat from the sun that is less than what we receive.

Observers of Mars have remarked various changes in tint on its disk. The poles assume a white color consistent with snow and not accounted for by the freezing of any other substance known to us. Then, at the proper time with reference to the sun, the ice-cap disappears, melts, apparently, and a blue edge



THEODORE EITEL THE FLUTE-PLAYER

is seen, which it is assumed is the water produced by the liquefying of the polar ice and snow. If the cap is ice this blue line must be water.

At first certain of the markings were given the name "sea," but circumstantial evidence comes to show that there are no large bodies of water on Mars, that Mars is an oceanless world. One of the fundamental observations tending to this belief is that the permanent markings of the surface, the straight lines or canals, extend across the "seas," and if the latter were water such permanence of markings would be impossible.

Another of the important lines of argument is that the blue-green areas are vegetation and that the changes of tint that have been observed are due to seasonal changes, quite similar to those which we experience on this earth.

Still another line of argument is that Mars is mountainless. The flatness of its surface is notable, and this is a character perfectly well to be determined, since evidences of considerable mountain ranges could not fail to have been noted. One curious feature which has been observed are certain little irregularities along the edge of the planet. These prove to be not mountains, as was at first surmised, but in all probability clouds of dust, so that phenomena similar to the great sand-storms of the Sahara are really visible to us. It is not possible to follow out all the lines of proof, but this one is rather popular: the close and continual observation of these spots has shown that they become detached from the disk of the planet as it revolves, and on the edge one can see between the planet and the dust-cloud. The observation gives a key to the condition of much of the surface of Mars. The ochre regions are deserts, and Mars is a vast Saharan world, where fertile spots are the exception and where water is everywhere scarce. It is a saddening picture of a world in destitution, a world athirst, where water is the one thing needful, yet where only from the melting of the polar snows is any of it obtainable.

An important matter, in which a comparison of the conditions on Mars stands forth in its relations to that of the earth, was a consideration of the origin of the two bodies. Assuming them to have each been the segregation of particles, whether of gas or solid meteorites, the process of condensation into spheres has squeezed heat out of them. Clearly the heat so produced would be relative to the masses of the two bodies, since the squeezing influence is gravity. This idea is a departure of course from the old one of a hot nebula out of which the planets were made by the throwing off of rings. But the hot nebular hypothesis is by many not longer held to be tenable. For a cold nebular hypothesis, or a meteoric one of any one of the varieties, Mr. Lowell's suggestion is a sequence, according to which each planet evolves heat in contracting to an amount relative to its size. Mars, therefore, smaller than the earth, did not have sufficient force of gravity to produce as high a temperature as the earth, and being smaller it radiated what heat it had much earlier. It did not have so large a stock of heat to begin with, and it spent it faster in the second place, so that Mars passed long ago through the stage where the earth now is, and the development due to our present temperate climate was long ago accomplished. Mars, therefore, is relatively older than the earth.

The lectures of Mr. Lowell then went on to note the loss of oceans on Mars, the water which it possessed being absorbed into crevices in the surface and lost into space. This is prophetic so far as the earth is concerned, since there are on every hand evidences of the growing aridity of our land and the encroachment of our continents upon the sea bottoms. In this matter the earth must follow Mars, and the sea bottoms share the fortunes of the continents in the loss of moisture; they will outlast them, nothing more.

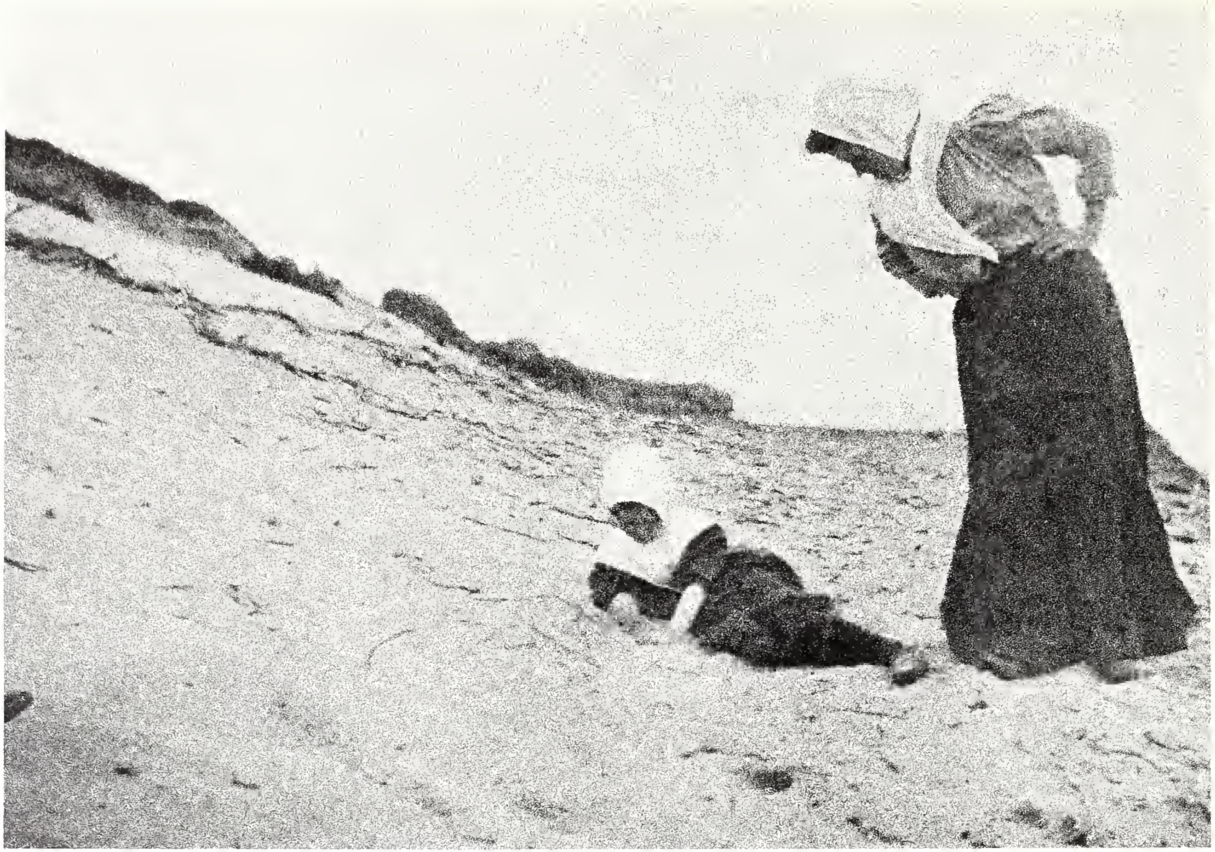
"Before the final stage in the long life drama of a planet is brought to its close there will be a time when the water still lingers a little in the air." Of this there is some evidence in Mars. As the season advances during which the polar cap melts, there comes an indefiniteness to what were before contours that were sharp. That this is mist due to the melting of the cap there can be little doubt. That the moisture-laden winds will tend to the poles is but a reasonable assumption based on laws of rotation, and the moisture is here condensed into snow. Within this snow-cap lies most of the water of Mars. At best, it is but a scanty supply, and it is tethered at that; for it is tied up for most of the time at one pole or the other. For a few weeks only at each half-year it stands unlocked, first in the Arctic region and then in the Antarctic. Then, and then only, may this meagre deposit be drawn upon. Mars is indebted for the staff of life to a polar pittance sparsely doled out, and only at the appointed times.

The very important question whether the temperature of Mars will permit of life was the subject of an entire lecture, and of a paper or two which have since been given by Mr. Lowell. The old idea that Mars is a very cold planet was based upon certain suppositions which Mr. Lowell shows to be wrong. In his computations he has depended to a considerable extent on the work of Professor Frank Very. Professor Very, who was the co-worker with Langley in those experiments on heat that gave Langley his international reputation, has continued the work himself, and it is of high character and importance. The general outline of Mr. Lowell's arguments along this line is that it is possible to get the surface temperature of Mars from a consideration of its brightness. The quality of its surface as a reflector of light may be computed, assuming it to be of the same materials as the earth. The whole quantity of heat that it receives from the sun may be computed; and since its brightness represents the energy that is turned back or reflected, the balance must be retained. The outcome of a series of complicated computations establishes the fact that the average surface temperature of Mars may be not widely different from that of the earth. It is true that the seasons are much more unequal, there being cold winters and hot summers, but it is also true that it is the summer temperature that is the essential condition to life. So far as temperature is concerned, Mars is not impossible to life.

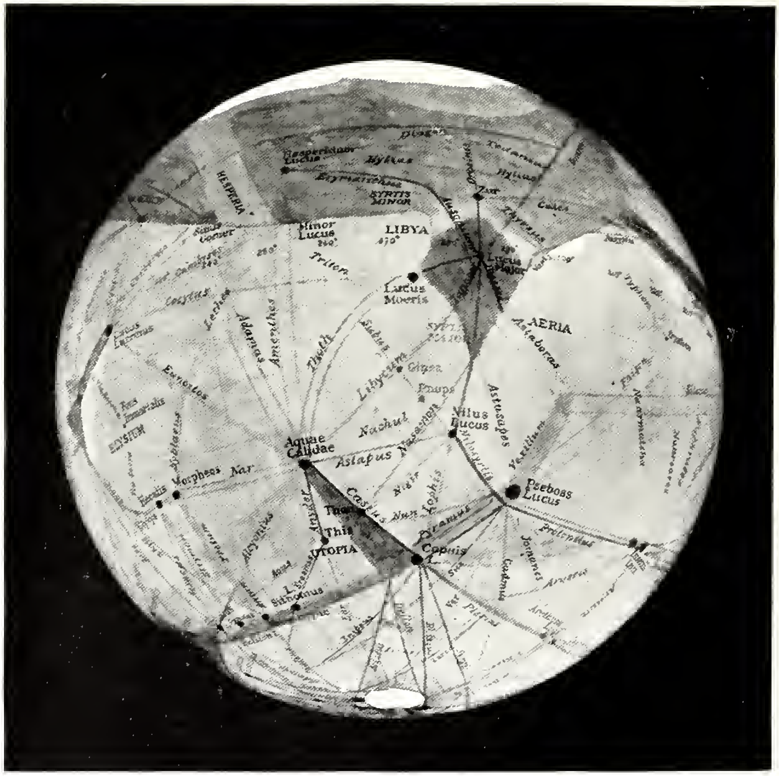
A bit of evidence was introduced at this point to show that animals can live in air that at first sight seems too rarified to support them. Recent observations which have been made in the San Francisco mountains opposite Flagstaff show that the creatures of the surface, deer, bears, etc., live almost at the tops of the mountains, where the atmosphere is only half as dense as at sea-level, and are as active and energetic as their brothers in lower places. This is done without any special adaptation of their organs. If this can be done without special mechanism, how much more cannot nature do by adaptations evolved at her leisure towards fitting life to the environment of a scanty atmosphere?

Next in order in Mr. Lowell's massing of facts came the novel idea of the domination of brain over nature in a well-developed planet. A step up was made when life came from the water to the land. Brain was needed, and brain was evolved. Greater possibilities were evoked when man came upon the scene. Then fire and clothing raised him above the brutes, and slowly he began to take possession of the earth, and later to subjugate it. He has steadily been at work turning nature to his own ends. Thus far, though dominant, he has hardly begun to leave his mark upon the earth. His towns and his tillages are hardly more than tentative. But the time is coming when the earth will bear his imprint. What he chooses will survive, what he does not wish to preserve will lapse, and the earth itself will become the carved object of his handiwork.

From the condition of Mars it is reasonable to look for a high development of brain in its inhabitants. On the one hand, it is relatively older than the earth;



HELEN P. GATCH THE TRUANT

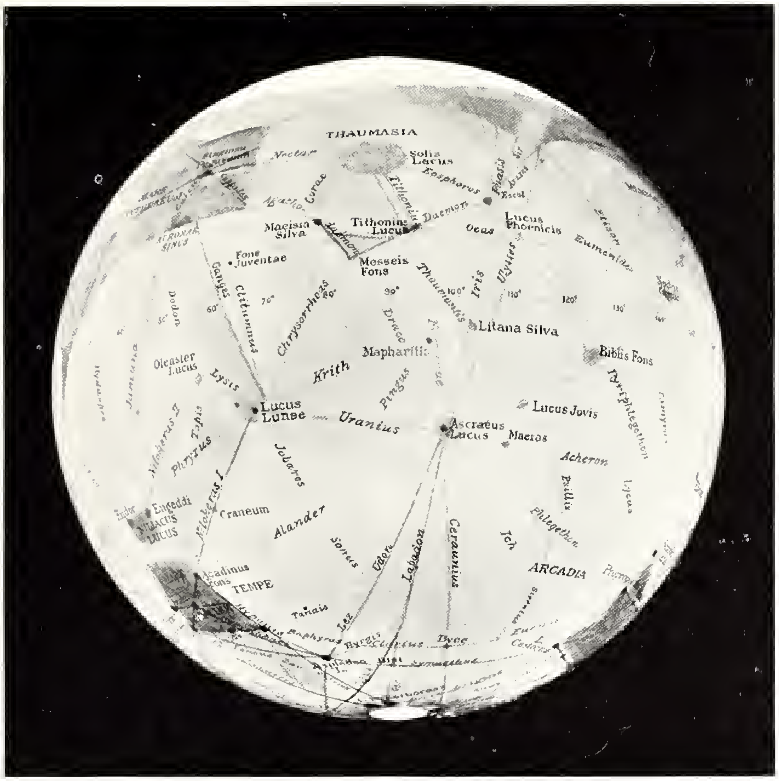


THE SYRTIS MAJOR REGION, OR THE HOUR-GLASS SEA

on the other, the land forms of life, which are the more highly developed, should in general differentiation have far outstripped the earth's.

Up to this point, the argument has been of a nature based upon physical conditions as observed, which shows that life is possible on the planet and they have suggested what kind of evidences one might expect would be observable at our distance; viz., works which have to any extent modified the planet as a whole. The way is now clear for the presentation of such evidences as the observations of intelligent work afford.

The remaining lectures in the course were devoted to the non-natural or artificial features of the planet. For a better understanding of these the illustrations are here given. They show the canals and the oases and other features. The canals are the long single or double lines; the oases, the round spots at the intersections of the lines. These, it should be understood, are maps of Mars, and not photographs of the surface. It is not claimed that any one has seen at any time all the markings that are shown. They have all been closely observed, however, each at the best time for seeing it, and a portion of them have been verified by means of the camera. It should further be understood that it is



THE SOLIS LACUS REGION, OR THE EYE OF MARS

not claimed that the canals that are seen are water. They represent lines that on the surface of the planet may be from, say, five miles to thirty in width, and are supposed to be irrigated areas and not canals of water.

The argument which is based on them is the argument of design. How otherwise than by the work of intelligence could such markings have been made? Their evenness stamps them to be non-natural, for nature never works with this kind of regularity. They cannot be cracks, they cannot be mountain-chains, they cannot be any of the natural markings of which we have any knowledge; for if they were they would be more irregular.

The markings which are called "canals" present a number of peculiarities. There are about four hundred which have thus far been observed. They are arcs of a great circle on Mars, most of them appearing as straight lines. They have length up to 3,450 miles, most of them, however, being only 200 or 300 miles long. They are subject to great differences in visibility, being easily seen at some times and difficult or impossible at others. They are scattered all over the surface of the planet, and are fairly equally divided, reaching even into the polar ice-cap. A most curious feature is that of the doubling of the canals. It happens that a canal which has been seen for some time as a single line develops at once a duplicate parallel line. This phenomenon has also been photographed, so that there can be no doubt that it is not a matter in which the human eye has been deceived. The gathering of this information has been peculiarly the work of the observatory at Flagstaff, and nowhere else can data at all comparable be secured whereon to found any hypothesis of origin.

Mr. Lowell's treatment of his facts has been in an interesting and conclusive way. By graphic curves he has been able to express various matters with reference to the canals, such as their distribution in different zones, their variations in visibility, and the like. The variation in visibility, he shows, is a regular progressive movement from the pole towards the equator, and which he claims is a seasonal one. In this connection vegetation irrigated by the water of ditches is the explanation which he suggests as the only rational one. The water liberated by the melting of the polar snows is conserved, and is led by canals to places where it may be used for the production of vegetation. The change he shows is one that comes at the proper time with reference to the season. From the polar region the increase in visibility, or the wave of vegetation, creeps latitudinally down the disk of the planet. Such a phenomenon as the spring awakening of the greenery of the earth is of similar character, yet different in its order. With us the vegetation follows the sun's warming influence, but on Mars it is delayed until such time as the sun has passed to the north or south so that it may warm up the polar regions and melt the snows, and then its action begins. With dozens of little bits of evidence, Mr. Lowell made most probable the conclusions towards which his arguments tended, each bit strengthening the chain he was forging. And no feature seems the stronger than this one of the slow march of the seasonal growth down the latitudes, the reverse of its normal progression under earthly conditions. The conclusion is a striking one, the fastening of design to the canals of Mars, and it is one that to many of his auditors seemed but the proper outcome of an extraordinary massing of evidence.

That the world will accept immediately the conclusion that Mars is peopled with intelligent inhabitants is not to be expected. Such beliefs grow rather slowly. The tendency of our religions, the prevailing man-central conception of the universe, the inertia of scientific men, all stand in the way of the immediate acceptance of it. Of his large audiences there were some who disbelieved from beginning to end. Some questioned the facts set forth; others, the methods of reasoning. This was to be expected. But, on the other hand, there were many "who came to scoff," but who remained to pray. Many good thinkers were brought to a knowledge of Mr. Lowell's facts and an acceptance of the conclusions which he has drawn from them. It has been a splendid setting-forth of a remarkable investigation, to which Mr. Lowell has devoted himself, his time, and his resources. It is distinctly a work reflecting the highest credit on American science.

JAMAICA

THE latest scene of a catastrophe due to seismic disturbances is the beautiful island of Jamaica. Although for many years a popular winter-resort, it has never attracted so many American tourists as during the past few seasons. The travel thither, especially from American ports, has been very heavy, and the disaster which has overtaken this garden-spot of the West Indies is but a brief, temporary check to its prosperity. Fortunately, the work of destruction has not been so serious as at first reported, and it is safe to state that the topography of the island has not undergone any appreciable change, the beautiful scenery, for which Jamaica is noted, remaining unimpaired. In spite of the partial destruction of the town of Kingston and the consequent suffering to the population, communication between the numerous ports of Jamaica and the outer world received but a slight, temporary interruption. As a result of the events of the past month Jamaica has become more prominent in the public eye than ever before, and, as is usual in such instances of terrestrial disturbances, travel to various parts of the island will increase rather than diminish. We rejoice, therefore, in being able to present to our readers in this issue of the PHOTO-ERA an attractive and trustworthy article describing, by pen and picture, something of the character of the fairest island among the Greater Antilles.

THE NATIONAL ACADEMY OF PHOTOGRAPHY

IT is to be regretted that the idea of forming a National Academy of Photography in this country is no nearer solution than it was several months ago; Thus artists who profess to be opposed to this idea are at heart in favor of it, for they are known to have expressed a wish for the existence of a Supreme Court of Appeal, in which the highest ideals in the photographic profession shall centre. We are glad that the editor of *Wilson's Magazine* is deeply interested in this scheme, but it appears that as yet he does not know the peculiar traits of the American photographer. He states that the "Continental Camera Coterie," at its meeting in Buffalo last October, voted unanimously against the proposed Academy; i.e., on the lines which have been proposed. Whether he means along ideas expressed at the Buffalo Convention last summer, or whether he has in mind our own idea on the subject, it does not really matter. What if this exclusive little body did express its idea on the subject? It is to be supposed that this same coterie of photographic friends would sit on the same project along any lines whatever. It may be a shrewd, diplomatic beginning, from which ultimately will result the Academy. Does not the far-seeing politician decline the profferred nomination? When the conditions are right he accepts. Absolutely and permanently refuse? Not he. If the editor of *Wilson's Magazine* knew the American photographer as we do, if he had observed the doings at the National Conventions as we have, he would not be in a position to misinterpret the little play of a negative vote as regards the formation of a National Academy of Photography. We cannot recall one of these annual meetings of the professional photographers during the last thirty-five years at which there has not been discussed some movement for the betterment of the American photographer, yet with no practical result, so far as we know. For a year preceding an annual convention the craft would agitate a subject for the improvement of photographic conditions. This would be promptly brought up before the Convention, discussed at length and followed by the adoption of formidable resolutions. Committees were appointed to lay the matter before Congress, and much was hoped from the work of these gentlemen. But, as we remember, nothing was done. Among these measures were many of undoubted importance, which certainly would have benefited the craft; but for lack of intelligent and united effort they vanished in thin air. As regards the meeting alluded to by our esteemed cotemporary — and he may have occasion to record many more of a similar character — it is to be regretted that he does not appear to be able to read between the lines. Perhaps he does, as we do; but, like ourselves, refuses to commit himself. We certainly shall not abandon hope as regards the Academy. We were the first among American photographic journals to broach the subject, and we certainly shall not relinquish the idea, for we are convinced that it is for the benefit of the American artist-photographer. As we have already intimated, these preliminary meetings, at which the subject of an Academy is discussed, are beneficial, even when the idea is repudiated, inasmuch as they help to agitate the question; and there is nothing like good, sound agitation. We are not prepared to state, and, in fact, no one knows, just how the idea will take shape. We do not fear that this great question will meet the fate of other noble projects in past years. The right men will be found — few in number, to be sure — who will be able to obtain the victory now ardently wished for. In the meantime our interest in the matter will suffer no abatement, and we may depend upon our esteemed cotemporary, the editor of *Wilson's Magazine*, to assist in keeping the matter before the photographic public of this country.

OUR LITERARY PRIZE CONTEST

WHEN we first announced this contest, last summer, we had a suspicion that the number of subjects was excessive, and the results warrant that belief. Of course it was impossible to foretell the success of certain topics, although we were reasonably sure that each of the eight subjects would elicit a number of contributions. It was natural not to expect a uniformity of excellence of the competing articles. Most of them failed utterly to meet the requirements imposed; still, the results were in the main satisfactory, as five of the eight classes were accorded prizes. The following is a list of the successful contestants: Fred Felix, for "The Value of Photography to Advertising;" C. H. Claudy, for "Touring with an Automobile;" Madison Phillips, for "The Shape of the Photographic Print;" F. A. Fairbanks, for "Some Historic Landmarks of National Interest;" and Elmer C. Smith, for "The Application of Photography to Book-Illustration." The first one of this list is printed in the present issue of the PHOTO-ERA, and each succeeding issue will contain one of the remaining subjects, until the list is exhausted.

OUR SPECIAL PORTRAIT COMPETITION

AS we announced in the January issue of the PHOTO-ERA, the successful competitor in this contest is the firm of Brock & Koonce, the well-known firm of portraitists of Asheville, N. C. We take pleasure in presenting to our readers a half-tone reproduction of the winning portrait. The artistic and technical excellences of this charming figure will doubtless appeal to our friends. Workers who confine themselves to lenses of small aperture for portrait-work will be interested to know that this exquisite specimen of photography could never have been produced with a lens of the ordinary rectilinear type. The picture possesses qualities of atmosphere that are imparted by the lens, and which characterize this particular form of portrait-objective — No. 7 Euryscope, fourth series. This instrument has an aperture of four and one half inches and a focal length of thirty-two inches. It is, therefore, not suitable for use in connection with the camera used by the ordinary amateur. Thus it will be seen that the professional worker has a decisive and material advantage over the amateur, inasmuch as his operations are conducted on a large scale, and in this way he frequently obtains great results with comparative ease. In the hands of an artist such as Mr. Brock — and there is a limited number in this country who belong to the same class — a large lens of the portrait-type is capable of producing work of a high character, such as some of our notable amateurs should strive for. Their excuse for adhering to the use of lenses of a discarded and inadequate type and of flat-working single lenses is that the portrait-objective of the professional is not bulky or heavy, but too costly.

HERZOG'S DECORATIVE COMPOSITIONS

AMONG the several interesting lines of pictorial photography which have of late engaged the attention of photographers and painters alike is the work of Benedict Herzog. Workers in this country and abroad are doubtless familiar with his charming, decorative panels, which consist of gracefully-draped female figures, skilfully and tastefully arranged, generally to conform to some allegorical design. We have watched, with pleasure, the progress of Mr. Herzog's original and pleasing form of artistic expression, and can readily understand the enthusiasm with which it has been received by art-lovers in general. His most ambitious plates, entitled "The Banks of Lethe" and "'Twixt the Cup and the Lip," which embellish Alfred Stieglitz's beautiful quarterly magazine, *Camera Work*, have created a sensation in the art world. We shall be interested to know how these new decorative groups, or panel compositions, will have impressed that strangely philosophic thinker, George Bernard Shaw, who, as is well known, has already surrendered to the æsthetic influence of photography as expressed by the pictures of another American practitioner.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO-ERA.

". . . . Came cold February, sitting
In an old wagon — for he could not ride —
Drawn of two fishes, for the season fitting,
Which through the flood before did softly slide
And swim away: yet had he by his side
His plough and harness fit to till the ground,
And tools to prune the trees, before the pride
Of hasting Prime did make them bourgeon round."

Thus sang old Edmund Spenser, of our short and seemingly lifeless month, February. But well he knew that February was the month of all the year when one has respite from completed toils and must not only look forward to, but prepare for, the spring and summer which is hastening on apace. Must he not "prune the trees, before the pride of hasting Prime" should bring forth the buds and blossoms, when it would be too late to use the pruning-hook? And must he not prepare the ground and make ready for the seed-sowing?

February is of all months the month in which not only to pick up the dropped stitches of the past, but to plan for the coming workaday months. So let all our Guild use the month of February to make ready for the lusty days of spring, and the restful days of summer, which travel on apace, revealing each day new possibilities for advancement in his favorite avocation, photography.

Dickens says that "there are shades in all good pictures; but there are lights, too, if we choose to contemplate them."

Now in the average amateur photograph, instead of choosing to contemplate the lights, we are obliged to contemplate them, for they thrust themselves upon the eye, challenging it to observe them. More often than not the high-lights are so obtrusive that the shadows are lost entirely, and impress the eye as dark masses only, without special form. It is not the high-lights that make a picture; it is the skilful manipulation of the shadows, which, blending and melting into each other, lead gradually up to the lights of the picture.

There is not a point in the making of a photograph which requires as careful consideration as the harmonious management of its lights and shadows. The art of artistically and judiciously distributing the lights and shadows in a picture is expressed in the word "chiaroscuro." When we say of a photograph that it is hard and cold looking, we simply say in other words that it lacks chiaroscuro. It does not mean the disposing of the lights and shadows apart from each other, but that it is the art of representing light in shadow and shadow in light, so that the parts represented in shadow shall have the detail, the warmth, and the clearness of those in the light, while those parts in the light shall have the softness and roundness of those in the shadow.

If one wishes an object-lesson in the managing of lights and shadows, let him make a landscape picture at high noon, and another of the same subject either in the early morning or in the late afternoon. In the picture taken at noonday the shadows will appear as black patches with little or no detail, the high-lights will be harsh and chalky looking, and the effect will be a most unpleasant picture as far as any artistic merit is concerned. The picture taken in the early morning or late afternoon will show the objects in shadow with as much clearness of detail as those in the light, and the gradation of tones from the deepest shadows to the strongest light will be harmonious throughout the picture.

With this thought in mind of proper "chiaroscuro," the amateur would do well to look over his landscape pictures and see how many have detail and clearness in the shadows and softness and roundness in the high-lights. Many of them doubtless will be found to be simply confused masses of black and white, and if one searches for the reason he will doubtless find that most of them were taken near the middle of the day, when the sun was bright and strong.

The very best time of day for making landscape pictures is the early morning, when the sun is just sending its long rays athwart the landscape and the mists are rising from the valleys. This haziness of the atmosphere is a condition which lasts only a short time, but if one has the "early-to-rise" habit it is well worth his while to take advantage of this phase of Nature and so be sure of securing pictures full of artistic beauty.

Orthochromatic or isochromatic plates are strongly recommended for making landscape pictures. The names are derived from the Greek, the first meaning "right color," the second "equal color." The emulsions with which these plates are sensitized are intended to give the "right color," or, in other words, the tone-value of the objects photographed. To illustrate: if one was photographing a scene where there were masses of shrubbery of various shades of green running from the dark of the evergreen to the light colors of the poppy foliage, for instance, an ordinary sensitive plate would render the greens of a uniform tone, while if an ortho- or iso- chromatic plate were used the resulting picture would show the different degrees of light and shade, thus rendering their true tone-values.

The best time of day for taking landscape pictures is either in the early morning or the late afternoon, morning preferred.

The ideal day for landscape pictures is when there are light fleecy clouds in the sky, which soften but do not obscure or deaden the shadows.

Light is strongest at noon and faintest at sunrise or sunset.

The intensity of light is greatest in June and July and least in November and December.

White clouds soften without obscuring the light, while heavy gray clouds deaden it and destroy contrasts.

A partially cloudy day is the best for making waterscapes.

In making any sort of picture it "becomes you to worship shadows."

HER VALENTINE

A very attractive way to frame three or four photographs which make a series is to have a sheet of glass cut half an inch wider and half an inch longer than the prints when they are laid side by side. Cut a piece of stiff cardboard the exact size of the glass, arrange the prints on it and stick them lightly at the corners just to hold them in place. Lay the glass over the prints and bind the edges of board and glass together with lantern-slide binding. Choose a ribbon of a color which will harmonize with the furnishings of the room for which the picture is designed, getting two widths, one an inch in width, the other a half-inch. Of the inch-wide ribbon enough to go around the picture will be required. Turn it at the corners and sew into place. Put a piece of the half-inch ribbon around the glass at the point where two pictures meet, and tie the ends in a small bow at the top. Divide the other pictures in the same way, having the ribbon lie flat on the glass.

Small brass rings are sewed to the ribbon on the back under the bows, and serve for hanging in place of screw eyes.

Pictures mounted in this way make very pretty valentines, and are far more desirable than the usual valentine remembrance. They also lend themselves admirably to wall decoration, and may be hung in small spaces between larger framed pictures with pleasing effect.

J. H. FIELD
FIRST PRIZE

SAMUEL F. FROME SECOND PRIZE

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00,
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in the Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is also free to all, whether subscribers to PHOTO-ERA or not.

SUBJECTS FOR COMPETITION

January — "Calendar." (See January issue.) Closes February 28.
February —"Post-cards." Closes March 31.

AWARDS — HARVEST SCENES

First prize: J. H. Field.
Second prize: Samuel F. Frome.
Third prize: C. M. Whitney.

Honorable Mention: M. E. Baumberger, Harriet J. Goodnow, Harry D. Williar, Louis P. Murray, Mrs. H. P. Davis, Jean M. Hutchinson, Mrs. A. F. Turner, John F. Schork, Florence Marie Roberts, A. D. F. Gardner.

ANSWERS TO QUERIES

BARTON H.— Persulphate of ammonia may be bought in tubes ready for use by adding a certain amount of water. Each tube contains enough of the reducer to use at one time, so there is no trouble of weighing, or guessing at the quantity needed. In developing your negatives carry on development till the shadows have good detail. If the high-lights are too strong then reduce in the persulphate, which reduces the high-lights first before attacking the shadows.

F. G. K.— An ink for writing titles or descriptive matter on the dark or shadowed parts of a photograph is made by taking 2½ oz. of potassium iodide, 6 oz. of water, ¼ oz. of iodine, and ¼ oz. of gum arabic. Dissolve the gum in the water by heat, strain and add the chemicals. Keep tightly corked, and shake the solution well before using.

F. L. TRUE. — A clearing-bath for platinotype paper is made of one ounce of hydrochloric acid (C.P) and sixty ounces of water. For the sepia platinotype it is better to dilute this bath one half. Use several changes of the bath until all yellow tones disappear. Unless the acid is chemically pure — that is, bleached out white — the yellow tinge of the acid will stain the prints, especially if the bath is strong.

G. L. DEANE.— You will find the metacarbol developer an excellent one for under-exposed negatives. A good formula is as follows: metacarbol, 50 grains; sulphite of soda crystals, 200 grains; sodium hydrate, 100 grains; water, 20 ounces. To mix, first dissolve the metacarbol in the water, add the sulphite of soda, and when this is dissolved stir in the sodium hydrate. Let it stand and settle; then filter and bottle for use.

DELIA S. —To clean bottles from stains of chemicals fill the bottle with a solution of washing-soda and let it stand over night. Turn off about half, drop small shot into the bottle, cork and shake well. The stains will come off quickly, leaving the glass clear. If one has not shot convenient, pieces of egg-shell will answer the purpose quite as well as the shot.

CHARLES S. H.— The price of *The Practical Photographer* is twenty-five cents a number. Each number is devoted to some special subject. If there is anything special on which you wish to be informed, write for the number treating of that subject, enclosing twenty-five cents, and the copy will be sent you.

R. O. E.— It is not necessary for you to make up any chemical solution for the purpose of removing the film from old negatives. If they are very old let them lie in warm water for a few hours, then drain off the water and turn boiling water over them. The film will soften and slide off from the glass without any trouble whatever. If the negatives are of recent make turn hot water over them. When the film is removed wash in warm suds, rinse and dry.

FRANCES W.— Clean the plate as directed in answer to R. O. E. Make up a solution of gelatine — thirty grains of gelatine to one ounce of water. Have enough of the solution to admit of immersing both print and glass in the liquid. A porcelain tray will be found most convenient for this purpose. Take the glass in the left hand, the print in the right, and putting both beneath the surface of the liquid adjust the print in place on the glass. Lift out carefully, lay the glass on a flat surface and squeegee the print to the glass, taking care that all air-bells are removed so as to have perfect optical contact. The gelatine solution should be warm when in use.

ELEANOR C.— You will find as good a treatise on platinotype printing as one could wish in the number of *The Practical Photographer* devoted to that subject. It is No. 6 in the series, and will be sent you from this office on receipt of price. This book should be in the hands of every amateur photographer.

ALLEN R.— An article on "Nocturnal Photography" was published some time ago, probably before you became a subscriber to the magazine. In the March number we will give further hints on this fascinating phase of photography. March and April are both specially good months for this sort of work.

The Crucible

THE HANGING AND ARRANGEMENT OF PICTURES

Besides being works of art, pictures have an important office to fulfill in the home as decorations for the walls. A room may be perfectly equipped with all the necessary articles of furniture, the floors satisfactorily covered with carpets or rugs, the window light screened or tempered by appropriate hangings and the walls papered in artistic colors and designs, yet not be altogether satisfying. The reason is apparent by a glance at the pictureless walls.

Masterpieces of art, of course, are beyond the reach of the ordinary household; but there can be found at the present time a larger variety of good pictures at a moderate price than ever before.

The hanging of a picture makes or mars its success as a decoration for the room. If the colors are printed or painted in bright tones, the degree of light needed is not so great, in the daytime or evening, as with colors of less intense hue. Dark corners of the room may be perceptibly brightened by the introduction of pictures in vivid colors — pinks, reds and yellows.

Large pictures require distance to appear to their best advantage. This rule applies also to compositions of a certain character — winding roads and curving brooks that seem to disappear beyond the horizon.

Family portraits bear so intimate a relation to the life of the household that they belong in the living-rooms, except when for some reason they fit into the scheme of decoration for the formal rooms, hall or drawing-room.

Portraits of celebrated authors acquire increased interest when placed near their works, and pictures of composers are more attractive when hung near musical instruments. In one library a little gallery of authors' faces was made by filling the entire wall above the book-shelves with prints framed uniformly. The idea might be taken up in a music-room with the same success, using good photographs or engravings of persons eminent in the musical world.

Small pictures distributed at intervals upon a wall lack the style that they give when grouped more closely together. The same principle is true of the small plaster medallions that are usually hung, each by itself, about a room.

Two different methods of hanging pictures with a wire cord can be followed. One is to use one hook for each picture and have the cord form an acute angle where it falls over the hook. The other plan is to use two hooks and two separate cords, the cords making two separate perpendicular lines from picture to hook. The latter way is better for large, heavy pictures, the former more suited to pictures light in weight.

The proper height at which to hang a picture is often questioned. A good general rule is to bring the centre of the picture within eye range of a person of ordinary height when standing before it, but this need not be inflexibly followed. Sometimes three pictures framed alike and similar in composition or coloring are to be hung one above the other. The middle picture, which will look better if a size smaller than the other two, should be the one in eye range, and the space of an inch left between the pictures above and below.

One common mistake of an inexperienced picture-hanger is to bring into juxtaposition pictures with dark and light mats. Harmonious results are impossible to effect when this is done.

In many houses the hallway is quite overlooked in the matter of picture decoration. The opportunity, either in a living or reception hall, is too good to be lost.— *The Delineator.*

CARBON PRINTS ON IVORY

Carbon prints may be very readily transferred on to ivory for decorative purposes. In doing this, it is advisable to give the ivory a substratum coating of gelatine, and the easiest to use is made as follows:

1.	Gelatine	60 grains
	Glacial acetic acid	5 drams

Dissolve in a water bath.

2.	Chrome alum	15 grains
	Water	5 drams

For use mix —

Methylated spirit	300 minims.
Water	120 "
No. 1 solution	12 "

Heat in a water bath, and add with constant stirring —

No. 2 solution	6 minims

Filter through linen and flow over ivory and allow to dry.

INTENSIFYING PLATINUM PRINTS

Under-printed platinotypes may be readily intensified in the following bath made up in the order given:

Water	4 ounces
Citric acid	80 grains
Hydroquinone	8 "

Add a few drops of a five per cent solution of silver nitrate to enough of the foregoing bath to cover the print. When the desired degree of intensification has been attained, remove the print, wash thoroughly and fix in an ordinary hypo bath as in P. O. P. work. Finally, wash and dry as usual. As the intensification is due to silver, the print may, if desired, be toned by the usual bromide-paper methods.

LANTERN-SLIDES BY THE CARBON PROCESS

William Findlay, whose article on "Ozobrome for Pottery Decoration" will be found elsewhere in this issue, recently gave an interesting demonstration of carbon slide-making before the Aberdeen Photo-Art Club. Mr. Findlay, whose specialty is seascapes, advocated the use of a three per cent solution of bichromate in summer and a little stronger bath for winter, says *The Amateur Photographer*. After exposure, gauged by a strip of P. O. P. placed on another part of the negative, all of which cannot be used for slide-making, the tissue is placed in a dish of water along with a perfectly clean cover-glass. The tissue is allowed to become quite limp, with curling outwards, and is then brought in contact with the glass under water. Both are lifted out, the tissue squeegeed into contact with the glass, and the embryo slide placed inside a fairly heavy book. It is left there for twenty minutes, and then immersed in water hot enough for the hands to bear. In a little time the color begins to ooze out from the sides. The backing-paper is then lifted at one of the corners with a penknife, seized by the thumb and forefinger, and gently separated. Development then proceeds, no rough treatment being permissible, else the half-tones are lost. Two slides were developed in the presence of the audience. Both were from negatives of about the same density, and both had received the same exposure. The first was in pure black, and, though all detail was present, it was useless as a slide. The next was in Rotary dark blue, and it was a beautiful slide, crisp and full of detail, which later in the evening was shown on the screen and greatly admired. Mr. Findlay said his "failing" was for blue colors, and he had found it the best for marine subjects. He explained the failure of the first slide by the fact that different colors require different exposures. Blue, being more sensitive than black, sea-green, or red chalk, was a color very suitable for sunsets, and only by experience could one gauge the correct exposure. He also stated that a longer exposure was necessary for lantern-slide work than for the ordinary carbon prints. What would make a good carbon print would look very poor when projected by the lantern, owing to lack of depth.

STRIPPING FILMS

Of all the methods advanced for stripping films, none is so satisfactory as that effected by the use of some form of hydrofluoric acid. It is not necessary to have the acid in the form of a liquid, as it may be easily prepared in proper strength according to the following formula:

Water	10 ounces
Sulphuric acid	½ fluid dram
Sodium fluoride	30 grains

It should be remembered that the acid is very corrosive and forms dangerous sores upon contact with the skin. Its fumes should not be inhaled, and as it attacks glass it should be kept and used in gutta-percha or vulcanite containers.

Place the negative in plain water for a few minutes and then immerse in the acid bath, where the film soon becomes detached and floats off, or, if necessary, may be easily separated from the glass with the finger, which should be encased, for protection, with thin india-rubber finger-tips. Rinse in a dish of water, after which it may be floated on to another glass support, reversing it in the process if desirable. If the film is allowed to remain long in the water it will enlarge considerably. The stripped film should immediately be transferred to a bath of methylated spirit before placing it upon a new glass, if no enlargement is desired.

A method which causes no enlargement of the film is as follows:

Soak the negative for about ten minutes in a ten per cent solution of formaline, then rinse and immerse in the following bath:

Water	2 ounces
Methylated spirit	2 "
Glycerine	40 minims
Hydrofluoric acid	80 "

When the film lifts at the corners it may be gently stripped from the glass, as described above, and rinsed before transferring to a glass support.

YELLOW FOG IN NEGATIVES

Although an old trouble, yellow stain resulting from unscientifically prepared developers is loth to depart from the photographic dark-room. Certain developers may easily produce this objectionable coloring as soon as a higher temperature is reached. A glycerine developer used at 59° to 66° yields clear negatives, which feature should be considered with stand-development. Whatever the character of the developer used, it is a good plan to rinse the plate thoroughly after development. The Lumière Brothers recommended the following method for the treatment of yellow fog: soak the afflicted negative well, then place for five minutes in a solution of permanganate of potassium in the proportion of 1 to 1000; rinse thoroughly, then treat the plate to a bath of metabisulphite of potassium 1 to 10, and rinse.

A PORTRAIT SUGGESTION

In taking portraits never have the eyes turned in the opposite direction to the head. Large eyes should be turned a little downward, small eyes upward, and deep eyes full view to the camera. A little attention paid to the posing of the subject will fully repay the amateur operator.

CLEARING-BATH FOR BROMIDE PRINTS

The following bath is efficacious in removing fog, veil or stains from bromide prints:

Water	10 ounces
Citric acid	10 "
Thiocarbamide	20 grains

or

Water	10 ounces
Hypo	2 "
Potass. ferricyanide	30 grains

The Art of the Dresden Gallery, by Julia de Wolf Addison. Boston: L. C. Page & Company. First impression; November, 1906. Cloth, $2.00 net.

All lovers of art — including artists, however eminent — should rejoice in the appearance of this delightful volume. In scanning its pages the intelligent reader will quickly observe the loving, yet discriminating hand of the author, who, while telling the story of one of the world's most attractive picture-galleries, practically gives the history of painting, beginning with Botticelli and ending with up-to-date artists of the German school. As every important school of painting is well represented at Dresden, notably the Venetian, German, Dutch and Flemish, it is easy for so capable and versatile a writer as Mrs. Addison to point out the characteristics of nearly every great painter since the time of Mantegna. With becoming modesty Mrs. Addison — herself the possessor of a keen critical faculty — in presenting the merits of a certain painter, quotes the opinions of cotemporaneous writers, recognized authorities in art, so that the reader, if in need of information, is served by a conscientious and trustworthy guide. The story of the matchless Madonna di San Sisto is charmingly told, also simply and truthfully. This admirable trait accompanies the description of each great picture and each notable artist, and makes the perusal of the book not a task, but a joy. What profit one thus derives applies not merely to the gems of the Dresden Gallery, but to the pictures of other art museums, such as Berlin, Munich, Vienna, St. Petersburg, Amsterdam, Paris, London, as well as the great galleries of Italy. We have here, then, practically a universal guide to painting, founded upon the priceless contents of what may safely be regarded as the most popular picture-gallery in Europe.

Dresden has been called the Florence of Germany. With its art-loving princes, its coterie of scholars and artists, its famed crafts, its Noble Academy and Art Gallery, it deserves the title more than any northern capital. No wonder its English quarter constitutes a formidable portion of the city's population. The musical advantages of Saxony's beautiful capital are unsurpassed, the climate is mild and equable, and with matchless opportunities to enjoy the creations of the world's most illustrious painters — not forgetting the wonders of that Aladdin-like museum, the Green Vaults — the person privileged to pass a winter in Dresden may, indeed, taste of earth's joys the greatest.

Mrs. Addison's book has fared well at the hands of the publishers, being superbly printed and provided with a handsome, tasteful binding. The illustrations number a half-hundred of full-page duogravures printed in sepia, the subjects being admirably chosen, covering various schools of art treated by the author. The volume will undoubtedly prove a winner of the first rank, for it appeals irresistibly to picture-lovers, connoisseurs and laymen alike, possessing all the elements of quick and lasting popularity.

Photography for Students of Physics and Chemistry, by Louis Derr, M. A., S. B. The Macmillan Company, 66 Fifth Avenue, New York, N. Y. 8vo, cloth. $1.40 net.

Although photography, in its purely technical sense, is one of the younger sciences, it has called forth a prodigious number of text-books, and few of these are as concise, lucid and practical as the above-named volume. Mr. Derr is associate professor of physics in the Massachusetts Institute of Technology and has for many years sedulously practised photography along scientific lines, imparting the results of important experiments and investigations to the students in his department. We know from personal knowledge that he is qualified to speak and write with authority on the subject of practical photography, and our perusal of his book simply confirms this opinion. There are many persons who take up photography for a serious purpose, not necessarily as a means of artistic expression, and to such thoughtful workers Professor Derr's handbook is earnestly recommended. The working-principles are explained with admirable clearness, all matter likely to confuse the student being carefully eliminated. A valuable feature of this new handbook is the diagrams, which serve to elucidate some of the more occult phases in photography; viz., astigmatism, halation, color-sensitiveness of the sensitized plate, etc. The chapter on measuring shutter-speeds is strikingly clear and to the point. Professor Derr is to be congratulated on so successfully presenting the salient points of the photographic science. There is no doubt in our minds that the volume will be in active demand, as it should, by all seeking a clearly-expressed and trustworthy manual of the art-science *par excellence*.

The Complete Photographer, by R. Child Bayley. New York: McClure, Phillips & Company. London: Methuen & Company. Large 8vo. Price, $3.50.

Among the several text-books on photography are few which originated from a pure love of the art, coupled with an evident desire on the part of the author to benefit his fellow-workers. To this class belongs Mr. Bayley's book, which is, moreover, a work of conspicuous literary merit, and a source of inspiration to workers ambitious to excel in artistic expression. The various chapters are linked together like a logically connected story, in which the author describes the discovery and evolution of the most wonderful of all the arts in a lucid, fluent and delightful manner and with the ardor of a genuine enthusiast. Mr.

Bayley, having the courage of his convictions, frankly proclaims photography as an art, which fact alone will win a host of friends for his excellent book. To support this claim, he has called to his aid pictures by many of the most eminent pictorialists of the day, not omitting examples of two great pioneers in the field of artistic photography — David Octavius Hill and Julia Margaret Cameron. While the book is embellished with over fifty specimens of pictorial photography, all by workers of high rank, it is to be regretted that such masters as Perscheid, Hofmeister, Duehrkoop, Pichier, Mueller, Kuehn and Ruf are not represented. Their names are not even mentioned. To ignore the work of these distinguished artists, which in some respects surpasses even that of the French and English schools of photographic art, shows a spirit of prejudice, of unfairness, and by no means detracts from their worth. Is it creditable to the author of the "Complete Photographer" to utterly disregard Perscheid of Berlin, one of the most original and forceful portraitists in the entire photographic world? As for America, a few bright lights of the Photo-Secession are referred to deferentially; but to Mr. Bayley workers like Garo, MacDonald and Histed do not appear to exist. Why this unjust discrimination? Otherwise we have words of only the highest praise for the volume, which is among the foremost of its class and a notable contribution to photographic literature.

The British Journal Photographic Almanac and Photographer's Daily Companion for 1907. Edited by George E. Brown, F. I. C. Publishers: Henry Greenwood & Co., 24 Wellington Street, London, England. Price, 50 cents; postage, 25 cents; cloth, $1.00. 1,624 pages. Sole American Agents: G. Gennert, 24 East Thirteenth Street, New York, N. Y.

Once more we greet this indispensable volume, this time of unprecedented size. Sandwiched in between two inches of solid advertising-matter is the text, one inch thick, and comprising practically the world's progress in photography during the year 1906. As everybody knows the make-up of the *British Journal Almanac*, its many excellences need not be recited, except that it were difficult to suggest a matter of real photographic interest that is not included in its present comprehensive grasp. New inventions, improvements in apparatus and advances in chemical manipulations, printing-processes, color-photography and outdoor operations form the most valuable features of this popular reference-book. Fifty pages constitute a directory of photographic societies in Great Britain and the United States. Formulæ for the principal photographic processes take up fifty pages, while seventy pages are devoted to developing-formulæ, etc., of the leading paper and plate manufacturers. Among the nuggets in the "Miscellaneous Information" is a list of the most important text-books on photography, and papers on the copyright and patent laws. In all the articles only writers of acknowledged standing and authority have been drawn upon, so that, all in all, the *British Journal Almanac* for 1907 is a veritable treasure-trove, and cheap at double the price asked for it.

HOME PORTRAITURE

"Home Portraiture" is the title of a pamphlet issued by the Bausch and Lomb Optical Company, of Rochester, N. Y., and it points out to the amateur the road to success in this delightful department of photography. There is sound and valuable advice on the subject from an amateur of experience, instead of an expert professional, which feature should appeal to the younger workers. The accompanying illustrations, also by amateurs, should be of material help to the student. Mailed free on application.

FOTO-REVUO

A novelty in the field of photographic periodicals recently made its appearance in the form of a monthly journal, edited by Charles Verax, in Esperanto and French, the same articles appearing in the two languages in parallel columns. The full title is *Foto-Revuo Internacia, monata revuo kun ilustraĵoj*. It is published by Charles Mendel, 118 Rue d'Assas, Paris, France. Subscription price, one dollar per year.

Esperanto is the International Auxiliary Language created by Dr. L. L. Zamenhof, a doctor of medicine, residing at Warsaw, Poland. Its aim is not to displace existing languages, but to be a second language for the world, and its merits are now recognized by the most eminent men of all nationalities. If we consider the enormous advantage of a common language, understood by all, we must confess what a blessing Dr. Zamenhof has conferred upon mankind.

The language is so simple that one who has some acquaintance with French or German can learn it in four weeks, if an hour each day is devoted to study. For this reason progress in the language has advanced by leaps and bounds, until to-day nearly 300,000 persons are conversant with the language. There is practically no country where Esperantists cannot be found, for the rate of growth is constantly increasing and now covers more than thirty different nations of Europe, Asia, Africa, America and Oceanica. Esperanto societies, which are being formed in the large cities of every country, are aiding the work, and, as a result, two hundred and fifty books and pamphlets in Esperanto are in print and ten monthly reviews are published regularly.

The value of such a universal magazine of photography, and the benefits to the photographic art accruing from such a journal as *Foto-Revuo*, are beyond question, nor can they be overestimated, and we heartily wish the editor and publisher all success in their new venture.

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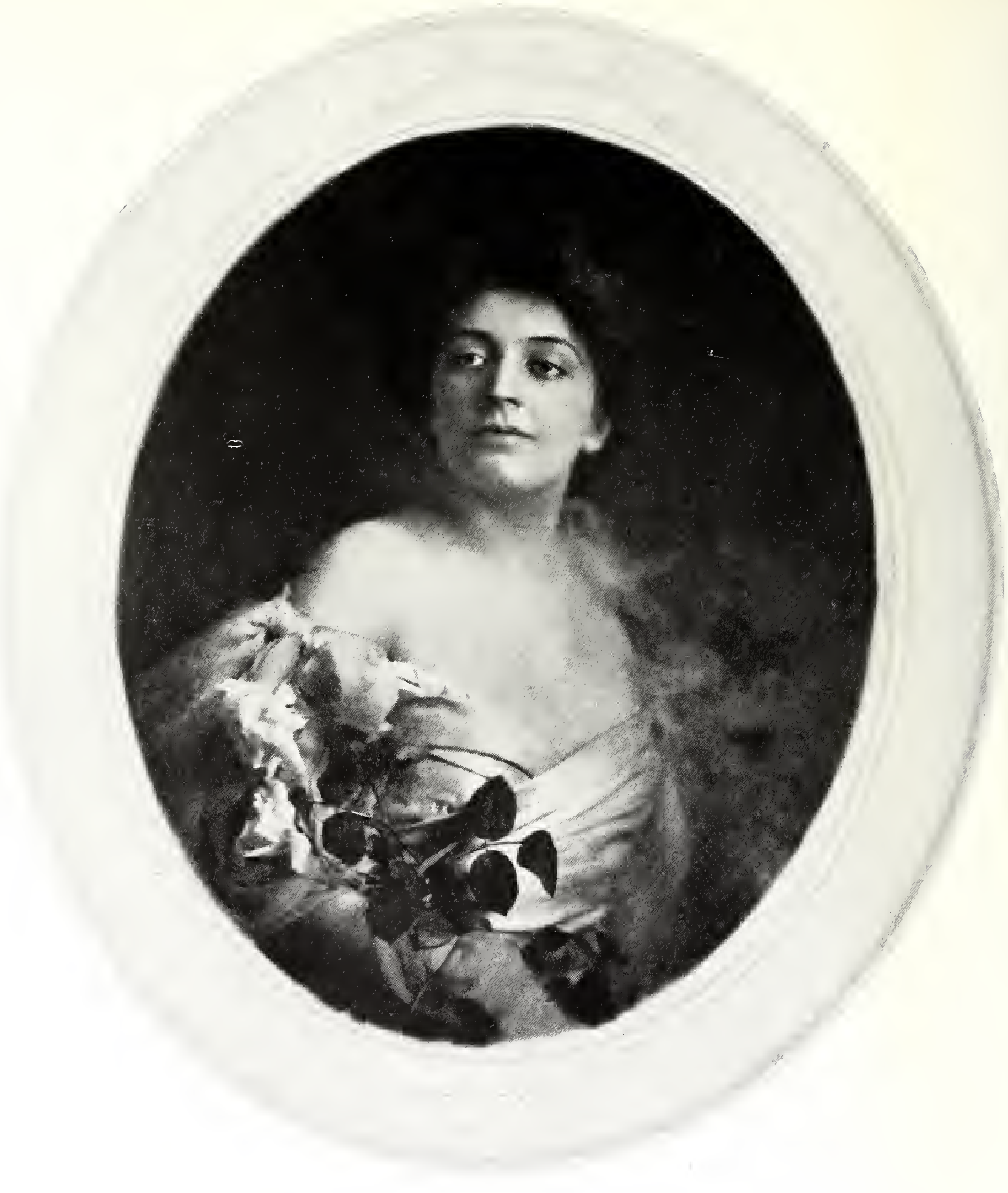


J. H. GARO
JEANNE CALDUCCI

PHOTO-ERA

The American Journal of Photography

VOL. XVIII MARCH, 1907 No. 3

T. W. TOLMAN WHERE THE WEST WINDS BLOW

A PLEA FOR THE STEREOPTICON

W. GREEN

WHEN we arrive at manhood's estate we naturally look forward to quieter forms of amusement than those adopted fifteen or twenty years earlier, and it is well that we do so. Youth will always be served, and, should we attempt to match our prowess against that of youth, the victor is easy to discover. This need not deter us from ministering to the amusement of the younger generations, some day to take our place, and in doing this we can derive more real amusement than from any selfish pleasure.

The older we grow the more easily we forget that we once were children; but when some story is told that carries our recollection back to boyhood days a thrill of pleasure is instantly felt! This is no idle statement, as any of my readers will testify; but how many of them devote their spare time to giving amusement and instruction to the young people of their acquaintance? There are many ways of doing so, but I shall devote this article to a means but little used on this side of the Atlantic, and that is the stereopticon, or, as it is known to children, the magic lantern. I presume that most of my readers are photographers, and therefore will not be obliged to purchase lantern-slides, as, later in this article, I shall tell them how to make their own.

Do you remember when you went to a stereopticon entertainment, many years ago, and listened with bated breath as the lecturer related the valiant deeds of Jack, the Giant-killer; or feasted on the comic pictures and twinkling stars — chromatropes, we call them now? Does this not remind you that very few of these lantern-entertainments are being given now? In those days there were no cinematographs, which, I am told, have now supplanted the lantern, and I shall not be convinced easily that the children of to-day are not just as eager to see the brightly-painted comic pictures in the magic lantern that have done duty for ages.

You may say that with the advance of years the children nowadays are too practical and require more advanced forms of amusement. This is nonsense. The young children are the same as they ever were and ever will be; it is the older folk who think the lantern childish. Moreover, it is this very childishness that makes it interesting.

The winter days are short, the evenings long, and what can be pleasanter than to see your own and a few of the neighbors' children happily seated, looking at the constantly-changing pictures that can be shown them with a lantern? If you have never attended a home evening of this kind, get a lantern and try it; you will soon be repeating the pleasure thus afforded.

It is not necessary to be extravagant in buying comic slides, for the children of to-day will be equally interested with a few of those and many slides from your own negatives. It is the character of your slides, and the accompanying remarks about them, that ensure success.

About four years ago I was asked to give a lantern evening for some school-children, and, thinking that they must have seen and heard all the fairy-tales that are published, and having quite a number of local views, I ventured to give a lecture along the following lines:

I began by asking them to imagine that they were about to take a long vacation with me by means of the magic lantern. After showing the exterior of the school, we bade it good-by and visited places of interest in the neighborhood, very rapidly, a few words of description being given to each. When we reached a park or a similar scene I showed a few flower studies. I then called attention to some lecture-hall or theatre, and we all went in to see one of the fairy-tales and a few funny pictures. In that way I kept them constantly interested for over an hour and a half, concluding by going back to the safe custody of the teachers, whose portraits were then shown. A "Good-night" slide, and all was over, except the cheering and clapping, with a vote of thanks, when the lights were turned up. I got down from the lantern, parched and perspiring, and looking at the smiling, happy faces gathered around me, I felt amply rewarded for my pains, having put through the lantern, in the time mentioned, one hundred and fifty slides, only fifty-three of which were comic.

Do not let the expense be your excuse for not using the stereopticon during the winter evenings, as a good and serviceable instrument can be purchased for from $15.00 to $20.00, complete with oil-lamp or fittings for incandescent, gas or electric light. Of the three, I prefer the electric light with 100 C.P. lamp; but as every house does not have the electric current, it is advisable to provide yourself with gas or oil fittings as well. Gas has advantages over oil, as it takes less room to pack, leaving the interior of the lantern for packing slides, etc., besides obviating the necessity of carrying kerosene.

I am sure, when once it is known that you have a lantern, you will find yourself in great demand throughout the winter evenings.

I have been much disappointed to find so few of the photographic dealers making a display of lanterns, and more so at the ignorance of lantern matters shown by the photographic assistants I have met. Surely the instrument that has brought fame and fortune to so many public lecturers should not be allowed to pass away in this enterprising and resourceful country. If only one dealer in each large town or city would make a specialty, during the winter, of the lantern and its accessories, I feel sure that ere long it would be as popular with amateur photographers as their cameras are in the summer; and why should it not be so? Think of the hundreds of good pictures that are made on holiday trips! What a wealth of amusement and pleasure is here locked up! If every photographer, professional or amateur, were to make one lantern-slide from each of his negatives that have a special interest, how quickly would he have a collection worthy of exhibition!

If you do not belong to a photographic club, you should join one, as you will then have an opportunity to see what more experienced workers are doing, and on lantern evenings your slides can be put through the stereopticon for the benefit of every one present.

If possible, get a lantern of your own, and you can thus afford many a pleasant evening to the inmates of hospitals, homes, schools and other institutions.

Do not allow the making of the slides to prevent your taking up lantern-work. It is not difficult, as some say; in fact, rather the reverse. The additional expense over your usual photographic outlay for lantern-plates, mats, cover-glass and binding-strips is very trifling. There are many good brands of lantern-plates, from any of which you can get good results. Personally, I prefer the Imperial plates, as I find they allow more latitude of exposure and give results of a very pleasing tone.

Any negative that is not too dense may be used to make lantern-slides, one full of detail giving the best results. The principal items to be considered in making these slides are: fineness of grain, as the results are destined to be magnified many times; latitude of exposure, if different portions of the slide are to be worked up to proper density; brilliance, especially in the high-lights, which should be absolutely clear glass; transparency of the shadows — the perfect lantern-slide should never be absolutely opaque in any but the deepest shadows (many lantern-plates which are excellent in other respects frequently give dense blacks, when slides with great contrasts of light and shade are made); adaptability to various developers, so that different color-effects can be produced to suit all subjects. When these features are combined, and the developer is

W. H. PHILLIPS DOGES' PALACE, VENICE

properly compounded, it is a simple matter to produce a perfect slide. As most lantern-plates lose some of their density during fixing, it is as well to develop a little darker than the finished slide should be.

An excellent developer for lantern-slides is as follows:

Solution A

Water	16	ounces
Metol	35	grains
Adurol	70	“
Sodium-sulphite crystals	1¾	ounces

Solution B

Water	16	ounces
Potassium carbonate	1¾	“

For use, take one and one-half ounces each of A and B, adding five to ten drops of a ten per cent solution of potassium bromide. The above developer will give slides of a good black color, with plenty of detail. If warmer tones are

THEODORE EITEL LANDSCAPE

desired, dilute the developer, increase the quantity of bromide and give longer exposure.

I have not said anything about the time of exposure required, as it naturally varies with the kind of plate used and the density of the negative to be printed, but a few experiments following the instructions enclosed in each box will soon enable you to get the correct exposure.

An acid fixing-bath should be used, any of the regular published formulæ giving good results. In addition to illustrated lectures, lantern-slides can be used for other purposes. When backed with ground glass and set in metal frames, they make charming window transparencies. Decorative window-panels can also be made by those who are artistically ingenious, by combining several slides on one sheet of ground glass with colored passepartout binding. Thus a stained-glass window effect can be produced easily. Lamp-shades can be made by those who are at all handy with tools. Other ways of utilizing your slides will suggest themselves, but the lantern is the principal one under consideration. When lantern-slides are used for public exhibitions it may be desirable to impart to some pictures a more natural appearance. This can be accomplished by the different toning-processes published in text-books on this subject; or, better still, color them yourself.

A PHOTOGRAPHER'S NOTES IN THE BALKANS

FELIX J. KOCH, A.B.

ON photographing the simple Serb-Church peasants, in the Sandchak, or district of Novi-pazar, the most dangerous section in European Turkey, they will watch the process with suspicious interest, and, when it is over, shake the photographer's hands with delight.

Inasmuch as all books are prohibited in Turkey, one's little record of photographs taken must be carefully hidden next the skin, lest the customs officials confiscate it; when, at best, it will be sent to Constantinople, and, months later, come sailing home.

At Plevlje, the capital of this region, women of the Christian sects are inordinately averse to posing — owing to fear of being compelled to pay on completion, rather than for any other motive. Moslem women obviously dare not pose for a man, if they would.

Not until the summer of 1904 did the American camera enter this territory — probably the last in Europe for its invasion — and then a travelling Dutchman was the first to become captivated by its superior merits over those of the instrument he carried.

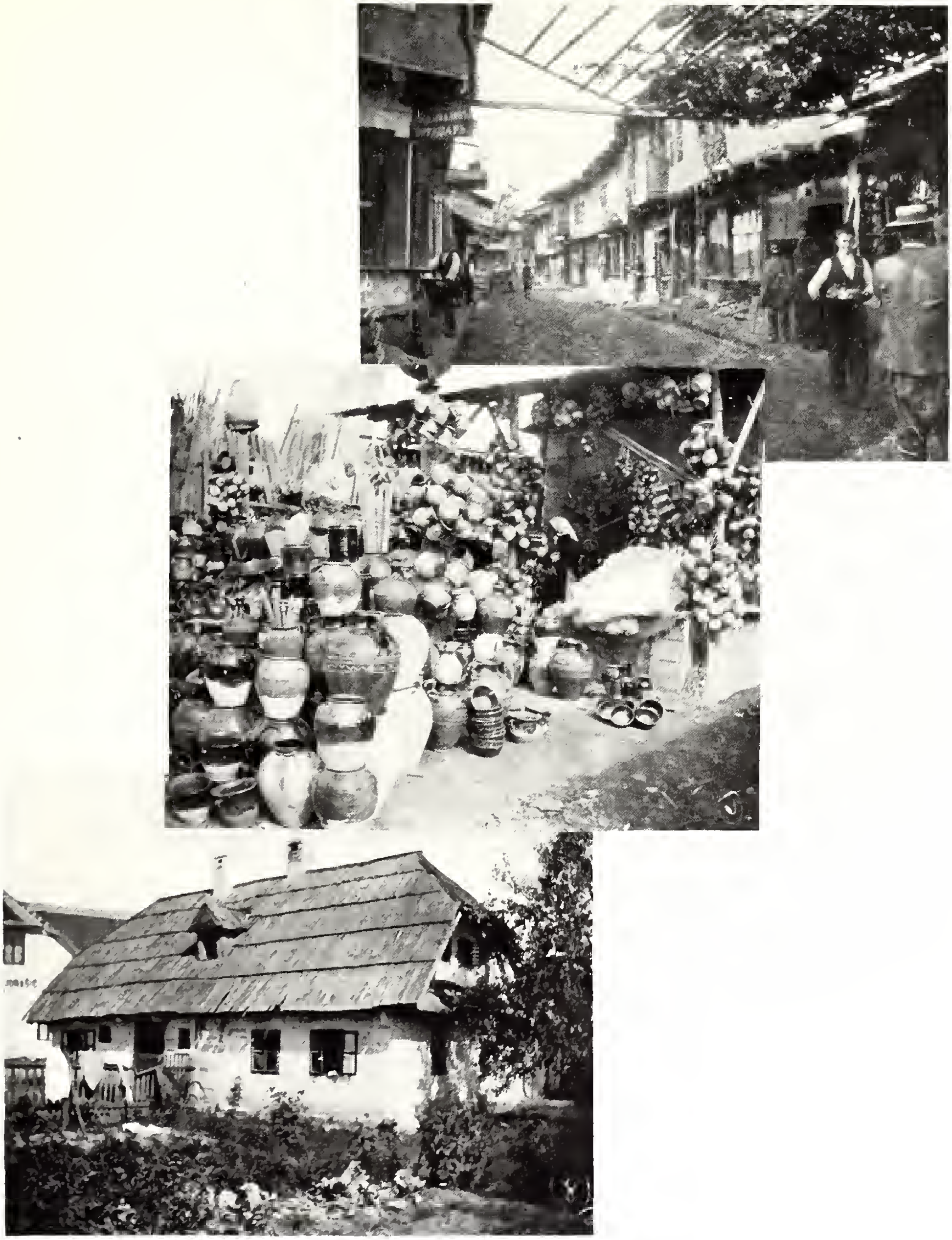
Photographs in the higher north-Turkish Balkans must frequently be made from horseback. With the constant twitching of the skin to which the animals there are accustomed, even the "snap-shot" is apt to be spoiled by a movement of the camera at just the wrong moment. That, however, is only the least of the difficulties the photographer experiences in the Nearer East.

Although the Koran forbids the portrayal of things animate, and books are closely censored at the border, the Turks admit the camera freely, and as freely pose for the photographer — even to the Pashas, or Governors of the districts themselves. The story goes that the Sultan is an enthusiastic photographer, having probably the most costly instrument in the world, but owing to inability to get good results he is now beginning to tire of the pastime.

In the interior of Hungary, in the vicinity of the Ice Caverns — although tourists are rare — the picturesque Saxon lumbermen expect pay for halting their teams a moment to be photographed. Eight cents is enough to make one of these men quite happy for such stoppage.

On the Serb frontier, duty is assessed on films, unless one be a press correspondent. Then they go through free.

Belgrade, in fact, has one of the most modern photograph studios in Europe, and the work done is remarkably fine — far and away beyond anything one anticipates in the Balkans, and even outdoing the Bucarest photographers, who are largely Parisian in their methods. The Belgrade man is the Clinedinst of his country — but his rates are low. For exclusive pictures of the king, prince and crown prince, the princess and the apple, orb, mace and buckle of state, each separate, his price is two dollars and five cents, and coronation prices at that.



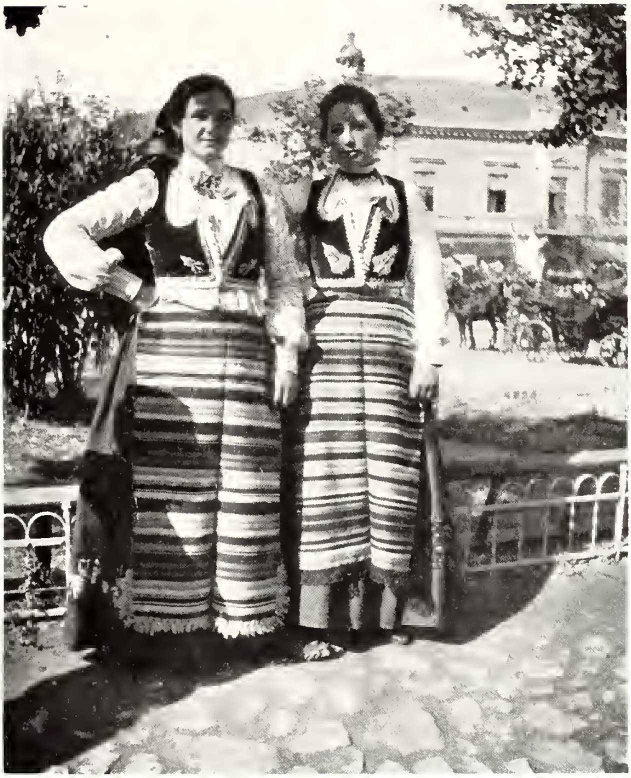
FELIX J. KOCH
VILLAGE STREETS TEMPT THE CAMERIST
A ROUMANIAN CROCKERY-MARKET
ONE OF MANY PICTURESQUE DWELLINGS

FELIX J. KOCH A BULGARIAN MOTHER AND BABY

On passing into Roumania, from the Danube at Giurgevo, film is almost unknown, so much so that it was necessary to explain its uses and purposes to the customs inspector at the port.

Bucarest, the Parisian capital of Roumania, likewise has its royal photographers, and in their studios may be found three pictures, not quite as well done as the Serb product, including the queen at a *folks-fest;* a cabinet of a lady of high rank, who permits the sale of her picture; and one other; the price is one dollar and forty cents.

At the annual agricultural exposition, at Bucarest, a cinematograph was last year in operation, throwing on the screen pictures of the Russo-Japanese war. Cereal displays at this fair likewise were enhanced by means of photographs. At the Serb coronation of 1904, at which all photographers were disappointed by prevailing fogs and wet weather, so much so that the representatives of a number of illustrated papers went home, without results, a cinematograph was likewise in operation, at the expense of an English consul in a central European town, who is likewise the member of Parliament for Sheffield, and whose hobby happens to be cinematograph-photography.



FELIX J. KOCH ROUMANIAN GIRLS

At Sofia, the capital of Bulgaria, a biograph establishment has been opened in a tent, and, with the admission placed at ten cents, is frequented largely by the poor — notably of the male sex. The walls of the National Museum, in this city, are hung with excellent photographs of modern Bulgaria —which, in addition to their artistic excellence, will prove of great historic interest to the future, and represent a scheme of preservation of national growth that our American museums might well emulate.

On the trains in North Bulgaria mothers of the middle class are often quite averse to having their cunning little ones photographed by the traveller. A good light and a quick lens usually manage, however, to do the work on the sly.

Women working in the tobacco-fields in the far south of this principality see strangers, and notably strangers not in national costume, so rarely that the approach of the camera will cause them to flee — until one's interpreter succeeds in assuring them that no evil is intended.

Although quite a few photographs adorn the walls of the reception-room — and, among them, one of a woman — the monks of Rila Monastery, in the lower end of Bulgaria, where, it is thought, Miss Stone was secreted, have no photograph of their abbot to sell, or give, or even show the rare traveller asking for such a souvenir. They themselves, however, pose readily for pictures, and as Lower Bulgaria is the photographer's Eden of the world, a jaunt to the monastery is most satisfactory.

In Bulgaria one is permitted to take photographs in and about an army barracks. This is absolutely unheard of in Austria and Hungary, and in Germany the sight of a camera in the vicinity of a fort is liable to lead to one's arrest on suspicion. At Nisch, in Servia, I myself was arrested for having a camera case over my shoulders and taking notes in a commercial part of the town, Nisch being the military stronghold of Servia. In Monistir, Turkey, too, the presence of the camera confirmed the belief of a soldier-patrol that I was a spy, and led, likewise, to arrest. As these incidents afford the coveted opportunity to inspect the prisons of these lands, they are not altogether regrettable.

In the north of Turkey it is interesting to note that Turkish women will deliberately stop, in a vista of street being photographed, and assume a pose so as to "be in the picture," providing no male Turk is in sight. To as much as address a Moslem woman, in Turkey, is liable to serious misinterpretation; and so the usual way of "taking" them is to pretend to be angered at their walking across the perspective which, it would seem, is to be "taken," and then, when the veiled dames are exactly in focus, quietly snap the button.

At Salonica, the young Spanish-Jew boys who vend the souvenir postals and serve as bootblacks exhibit an aptitude for posing that is almost unbelievable for so uncultured a race as they.

FELIX J. KOCH IN BOSNIA ARE SPLENDID TYPES

A PRACTICAL INTRODUCTION TO LANTERN-SLIDE MAKING

REV. T. PERKINS, M.A.

THE making of lantern-slides by photography is one of the most useful and interesting operations open to the practical photographer. It presents no difficulties which may not be surmounted by the exercise of a little patience and care.

A "Slide" Compared with a Negative.— A photographic lantern-slide is a positive printed on a sensitive film (generally gelatine) spread on a glass plate 3¼ inches square (American size, 3¼ x 4). This film bears a general resemblance to that of a negative plate, and is developed and fixed in a similar manner, but the film is of finer grain, thinner and less sensitive, and development is not carried so far. The slight veiling of the clearer parts, often an advantage in a negative, would ruin a slide.

A Good Slide.— A pleasing color, whether black, brown, purple or red, may be given to the metallic deposit. This is secured partly by the character of the emulsion of which the plate is made, partly by the constituents of the developer. A technically perfect slide has its highest lights clear glass, its half-tones full of detail and gradation, and its deepest shadows *nearly,* but not quite, opaque. The area of clear glass must be small, and finally the picture should be sharply defined, so as to bear considerable enlargement when projected on the screen.

Kind of Negative Required.— Though good slides may by modification of exposure and development be made from negatives which are not ideally the best for the purpose, yet the process is made easier if the photographer who intends to make slides bears this object in mind when exposing and developing his negative plates. The best negatives for the purpose are those that have plenty of detail and good gradation. A hard negative is liable to produce a slide which gives a stagy, limelight-like effect on the screen.

Contact Method.— In contact-printing the objects are of the same size on the slide as in the negative. As the lantern-plate is only three and one-fourth inches square, and one-eighth inch all round the edges is covered by the binding-strips which fasten the cover-glass to the lantern-plate, an area of three inches square is all that is available for the picture; but as a square is not a pleasing form, the subject will generally have to be included within a rectangle of 3 x 2 inches.

This should be borne in mind when composing the view on the focusing-screen of the camera. A rectangle 3 x 2 may be marked with a pencil on the ground glass, or a mask with an aperture of three inches square gummed to it, to show all that can possibly be included in the slide.

Point of Sight.— Though a contact-slide may be made from any part of a large negative, yet in any subject in which perspective is shown, unpleasing results will be produced if the "point of sight" is not included and does not fall near the vertical line that divides the lantern-slide into two equal parts.

If more of the subject than is included within an area of three inches square of the negative is to be printed on the lantern-plate, the slide must be made by reduction.

Contact.— Equally good slides may be made by either method, but each has its own advantages. For contact-printing no special apparatus is wanted, and, as artificial light is used, slides may be made at any time; also the intensity of the light can be altered easily to suit the negative.

Reduction.— Slides made by reduction require daylight, the intensity of which often varies and is difficult to estimate; a reducing-camera is needed. These are disadvantages, but, on the other hand, slides may be made from negatives of any size which have not been specially taken with a view to lantern-work.

To Make a Fixed-Focus Reducing-Camera.— The following dimensions are those suitable when reducing from a half-plate negative (6 x 4 clear) using a five-inch lens: Get a ¾-inch plank of well-seasoned deal 2 feet x 8½ inches and three ½-inch boards (A, B, C) 8½ x 6½ inches (Fig. 1).

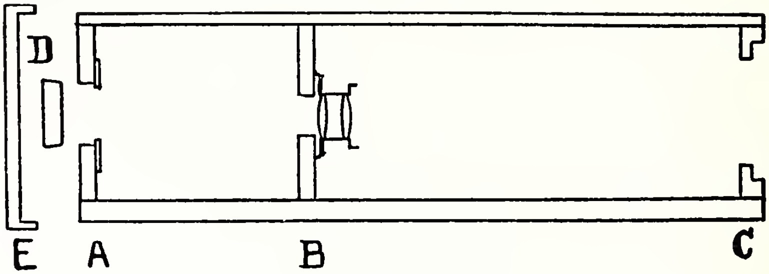


Fig. 1

Cut in A a central aperture three and one-fourth inches square, and glue thin strips along two opposite sides of the aperture so as to form a rebate for the lantern-plate.

Cut in B a central circular aperture to fit the lens-flange.

Cut in C a central aperture 6 inches x 4½ inches, and on one face of C sink a margin round it one-fourth inch wide to hold the negative. Use turn-buttons to fasten the negative in place. Screw C to one end of the plank and at right angles to it, the counter-sunk side outwards.

The optical centre of the lens must be fifteen inches from the negative and seven and one-half from the lantern-plate. As it is not easy to determine the exact position of this point, use these measurements as a first approximation and make the final adjustment by trial, thus: Put a glass plate, on which a sheet of printed matter has been pasted, in C; get some one to hold B with the lens (preferably a flat-field one) attached in the position shown in the diagram; and hold A in position with a ground-glass screen in the aperture. If the image of the whole of the plate in C is not included on the screen, shift B further from C and shift A till the image is sharp. If the image of the plate in C is not three inches in length, shift B nearer to C. When the position of B is found, screw it to the plank, then finally adjust A and fasten it in position. Nail stout millboard along each side and along the top from A to C, paint all the inside dead black, and paste strips of book-binder's cloth along all joints. Fit a square of wood, covered on one side with black velvet, into the aperture in A to hold the plate in place; make a cardboard cap E like the lid of a plate-box to cover this end of the camera and exclude all light.

To Use this Camera.— Put the negative into C, a lantern-plate into A, *film facing film.* Take the camera from the dark-room, the negative end covered with a cloth; turn this end towards the open sky, being careful that no trees or buildings obstruct the light. Expose by removing the cloth; then return to the dark-room and develop.

The measurements for the other-sized negatives are approximately as follows:

¼-plate (4 x 3 clear) — AB=8¾ in.; BC=11⅔ in.
1/1-plate (8 x 6 clear) — AB=6⅔ in.; BC=18⅓ in.

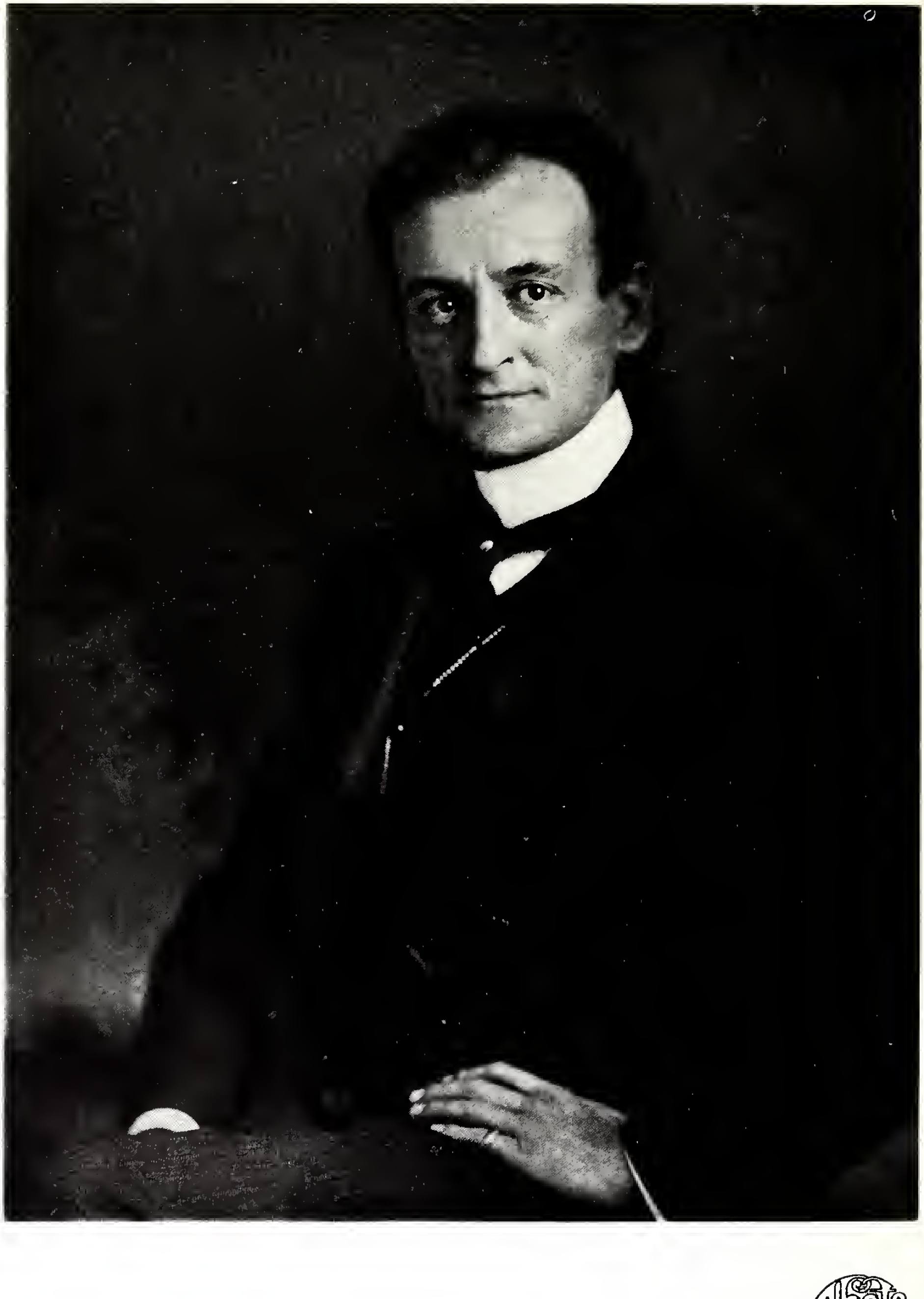
The table below shows approximate conjugate distances for reducing negatives to lantern size.

Size of Negative.	Focal Length of Lens.									
	5″		6″		7″		8″		9″	
	Conjugate Distances.									
(¼-pl.) 4¼ x 3¼	11¾	8¾	14¼	10¾	16¼	12¼	18¾	14	21	15¾
5 x 4	13¼	8	16	9¾	18¾	10½	21¼	12¾	24	14½
(½-pl.) 6½ x 4¾	16	7¼	19	9	22¼	10¼	25¼	11½	28½	13¼
7½ x 5	17½	7	21	8½	24½	10	28	11¼	31½	12½
(1/1-pl.) 8½ x 6½	18½	6¾	23	8¼	27	9½	30¾	10¾	34½	12¼
10 x 8	21¾	6½	26	7¾	10	9	34¾	10¼	39	11¾
12 x 10	25	6¼	30	7½	35	8¾	40	10	45	11¼

For example, if reducing a whole-plate negative (8½ x 6½) to fall within the 3 x 3 picture-space with a 7-inch lens, we should have approximately 27 inches between the lens and negative and 9½ between lens and plate.

Note.— By adding together the two conjugates we get the base-board length.

To Make an Adjustable Reducer.— Get a plank about a yard long. Along each edge nail strips, as shown in Fig. 2. Make a carrier for the negative (see diagram); this will slide along the board, being held at right angles to it by the strips. Fix the camera (a back-focusing quarter-plate one with rising and falling front, by preference) to the plank by a tripod screw passing through a hole in the board. Raise the camera by blocks if necessary till the lens is opposite to the centre of the carrier. Shift the carrier backwards or forwards till the image of the portion of the negative to be copied occupies the central area of the three-



J. H. GARO
DR. KARL MUCK

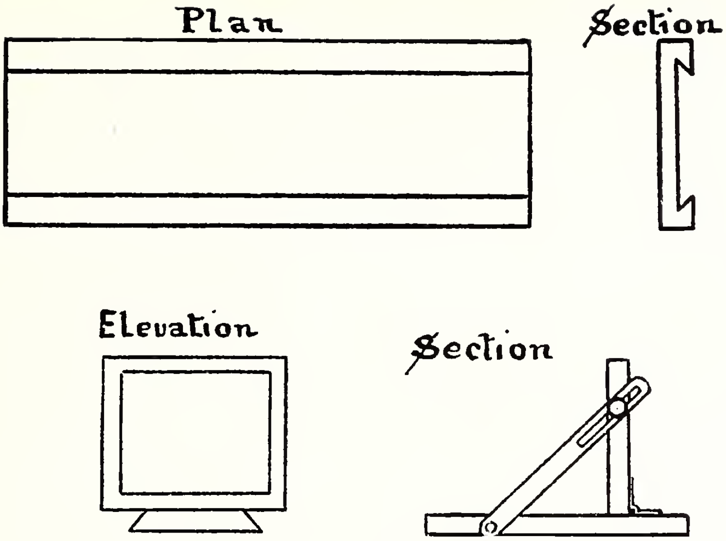


Fig. 2

inch square on the focusing-screen, using the rising front and swing front if necessary; focus, changing the stop if necessary, till the image is sharp; cap the lens; turn the negative end to the open sky. Cover the space between the camera and negative with a cloth to exclude the light as far as possible (*absolute* exclusion is not indispensable), insert the plate-holder and expose, removing the cap with the hand passed underneath the cloth. Remove the plate-holder and develop as usual.

Contact-Printing.— When making slides by contact, place the negative in an ordinary printing-frame, lay the lantern-plate film side downward on it, carefully adjusting it to include what is wanted, close the frame and carry it under cover to a room, darkened by drawing window-blinds and curtains, in which a lamp with an opal globe is burning. Hold the frame to the light, say at six inches from the globe (if at double the distance the exposure must be increased fourfold, and so on according to the law of inverse squares).

Exposure.— The correct time of exposure must be learned by practice. The following plan will help. Cover two-thirds of the plate with a card held against the frame; expose, say, one-fourth minute; shift the card so as to uncover another third and expose for the same time; remove the card and expose again for the same time. The three strips of the plate will have received three-fourths, one-half and one-fourth minute's exposure respectively. Develop and see which strip looks best. Repeat the same process with another plate, if necessary, giving different exposures.

Similar tests may be made when reducing either by covering up portions of the negative or by pushing in the slide of the plate-holder a portion of its available distance.

Development.— The formula I use is:

A

Hydroquinone	¼ ounce
Potassium metabisulphite	¼ "
Potassium bromide	30 grains
Water	10 ounces

B

Caustic soda	¼ ounce
Water	10 ounces

C

Ammonium carbonate	½ ounce
Ammonium bromide	½ ounce
Water	10 ounces

All these will keep well for a long time in stoppered bottles. B requires shaking before use. For use, take one-fourth ounce A, one-fourth ounce B, one-half ounce water. This will give black tones or colors.

Warm Colors by Development.— By adding some of solution C, increasing the exposure and time of development, warmer tones are obtained. When a little of C is added and exposure slightly increased, the color will be brown; if more, purple, and finally red. Thus if the exposure for black tones is one-fourth minute, one-half minute with thirty minims of C will give brown, one and one-half minutes with sixty minims of C, purple, and two to three minutes with one hundred and twenty minims of C, red. Black-toned slides will be sufficiently developed in two or three minutes; red-toned ones may require fifteen minutes. When much of C is used the color of the deposit seen by reflected light is drab, hence the process of development can be seen only by holding the plate between the eye and the dark-room lamp. The dark-room light may be used much brighter than when developing ordinary negatives.

Experience alone will show how far development must be carried, but if the slightest veiling of the high-lights, as seen by reflected light, appears, when black or brown tones are aimed at, development must be stopped at once.

With a normal developer, under-exposure is shown by slowness of appearance, over-exposure by great rapidity, and by a thin, flat image after fixing. No forcing of an under-exposed plate is possible; it will lead only to fog.

Tentative Development.— My usual method of developing is as follows: I aim at brown tones, but mix three solutions: No. 1, suitable for black; No. 2, for brown; No. 3, for red. I put the plate into No. 2, and if all goes well finish it in it. If the exposure has been insufficient, I transfer the plate to No. 1; if more than enough, to No. 3. By transferring backwards and forwards between No. 2 and No. 1, or No. 2 and No. 3, I generally get a good slide, though not always of the color I aimed at. The same solution will serve for the development of three or four plates in succession. When sufficiently developed, the plate is well washed, and fixed in a clean solution of hyposulphite of soda. Lantern-plates fix more quickly than negatives.

After fixing, rinse under a tap, and wash in several changes of water for three or four hours — more will not matter. I generally leave slides made in the evening in water all night.

Any grooved washing-tank may be used, but the plates can be well washed if placed face downwards in saucers, or if four plates placed in pairs back to back are put into a two-quart preserve-jar full of water.

Dipping the slides in a very weak solution of hydrochloric acid, one part to sixty of water, about the middle of washing, often brightens them.

Clearing and Reducing.— Slides slightly veiled or stained may be cleaned by immersion for a short time in Howard Farmer's reducer. This reducer increases contrasts. It may also be applied locally by means of a brush or tuft of cotton. Some indication of clouds in a sky of uniform tone may be introduced by means of this reducer. The persulphate of ammonium reducer may be used to reduce over-developed slides, especially those in which contrasts are too strong.

Intensification.— Weak slides may be intensified by bleaching with mercuric chloride, followed by a weak bath of ammonia; but as the results are not permanent and as the color is altered, this process is not to be recommended. It is better to make a fresh slide. After reducing or intensifying the slide must be well washed.

Drying.— After washing, slides should be set up to dry of themselves in a place where no dust can settle on them. Drying must not be hurried by artificial heat; a current of pure dry air will soon dry a slide. On no account must the film be touched before it is dry.

Masking.— When perfectly dry the slide will require a mat. Mats with apertures of various shapes and sizes may be bought. Those with rectangular corners are generally most suitable. But the cover-glass must not be put on until slide and mat are bone-dry, as if any moisture is enclosed between slide and cover-glass it will form a mist when evaporated by the heat of the lantern.

Binding.— Place a clear cover-glass on the film side of the slide, cut the binding-strips into lengths of three and one-fourth inches, moisten the gummed side, lay the strip gummed side upwards on a soft table-cloth, hold the slide and cover-glass firmly together, press one edge down on the strip (this will adhere to it), turn the slide with that edge upwards so that the finger and thumb of the other hand can press the edges of the strip against the outer faces of the slide. Next bind the opposite edge, then the two others. Do not use metal binders — only paper or tape.

Spotting.— Lay the bound side on the table cover-glass upwards (the view will then be seen right as regards right and left). Stick two little bits of paper at the two upper corners and a strip of paper along the upper edge for the title, and the slide is finished ready for use. The bits of paper show which way the slide must be put into the lantern.

Covers.— Cover-glasses may be bought at a moderate price or made by clearing the film from a spoiled lantern-plate. The film will generally peel off if the plate is laid for half an hour in a weak solution of hydrochloric acid; if it will not strip off by this method, a few strokes of a stiff nail-brush will easily remove it.

How to Make Slides from Different Kinds of Negatives.— If the negative is thin, print in a weak light, either by turning down the lamp or holding the printing-frame further from it; or, if the slide is made by reduction, by placing a sheet of ground-glass or pale yellow gelatine over it. A slide showing increased contrasts may be obtained from a flat negative, even if dense, by giving a long exposure to a weak light.

If the negative is too strong in contrasts use a strong light; this will pierce the dense parts, and by over-exposing the clear shadows, weaken them.

Distortion.— Distortion in the negative, caused by the negative-plate not being plumb at the time of exposure, may be remedied by using the adjustable reducing-camera, if the upright part of the carrier, instead of being fixed at right angles to the base, is hinged to it (see diagram No. 2) and provided with side supports similar to those on cameras.

Suppose the vertical lines of a building in the negative converge towards the top: place the negative upside down in the carrier, and swing the top of the carrier away from the lens; at the same time swing the back of the camera away from the lens, so that the lantern-plate and negative make equal angles, in opposite directions, with the base-board. The amount of swing must be found by trial. It is important that *both* carrier and camera-back should be swung, as though parallelism of the vertical line could be secured by swinging either, the ratio of horizontal to vertical dimensions would be altered.

Barrel distortion due to the use of a single lens in taking the negative may be overcome by reversing the single lens in the flange of the camera when making the reduced slide by the adjustable reducer.

Choice of a Plate.— There are several firms who make lantern-plates, any of which will give good results. It is well to keep to one kind. It is recommended, however, that when a manufacturer supplies two series, one "rapid" for black tones only, one "slow" for black or warm tones, that the latter should be chosen, and that all fancy plates made for special purposes should be avoided until thorough mastery of the making of slides on the ordinary kind has been obtained. Process-plates and the very slow plates that can be developed by candle-light, all useful in their way, should be reserved for subsequent work. It is well also at first to adhere to one developing-agent, and not to try first one and then another of the many developers on the market because beautiful slides have been seen made by some particular formula by other workers.

Clouds and Sky.— Slides in which the sky is represented by bare glass do not look well. If there are any indications of clouds or an even-toned sky on the negative which do not show on the lantern-plate with an ordinary exposure, shading the landscape part of the negative with a moving card or cloth while allowing the light to fall on the sky part will sometimes mend matters; or suitable clouds may be printed on a separate lantern-plate, which when finished is used as a cover-glass. Any part of the clouds that would overlap the objects on the lantern-plate can be removed by a strong solution of Farmer's Reducer (a few drops of a saturated solution of ferricyanide of potash added to some clear fixing-solution). But skies thus added are not always satisfactory; for, except when the slides are black-toned ones, it is difficult to match the color of the sky to the landscape, and again, such skies often seem much too prominent — in the same plane with the middle distance instead of retiring to the extreme distance.— *The Practical Photographer, No. 11.*

C. W. CHRISTIANSEN WINTER IN THE WOODS

AMATEUR PHOTOGRAPHY AND WASTE OF WATER

IN spite of all that has been said and written, the photographer to-day believes firmly that unless his negatives and prints are washed for a long time — generally in running water — they will not give reasonable promise of permanence. Moreover, the great body of photographers seem to place implicit faith in soaking in water to remove hypo. We hear of negatives left washing all night, and of prints left for five or six hours in a print-washer. Granted that permanence in itself is desirable, this is not the way to attain it, nor is it the way to deal with reasonable economy with the water. It is the aim of these few paragraphs to show, first, how to ensure as much permanency as can be expected with a silver print, and then how to remove the hypo effectively with a minimum both of labor and of water.

Experiments have shown, beyond all doubt, that the most important condition of permanence is thorough and complete fixation in a hypo-bath free from any tendency to deposit its sulphur. A strength of three ounces of hypo to a pint of water, used for the first time, either with or without the additions necessary to make it an acid fixing-bath, would unquestionably fix any P.O.P., bromide or gaslight print in ten minutes at ordinary temperatures. This does not mean that it takes ten minutes to fix the print — probably the action is virtually complete long before — but that ten minutes is long enough to give us a guaranty of complete fixation. With negatives, whose sensitive film is much thicker and contains more silver, and that in a form not so easily attacked by the hypo, ten minutes might not suffice; but with negatives the eye gives us an indication how rapidly the process is progressing, and if we allow the whole of the whitish deposit to disappear, and leave the plate in the hypo for as long again as the time taken to do this, we need have no fear of incomplete fixation. The great cause of deterioration due to incomplete fixing does not lie so much in not giving the hypo sufficient time to do its work, but rather in using hypo-baths over and over again, without having any clue whether they are still efficient or not. If at the end of each day's work the hypo that has been used is poured away, the greatest step towards permanence has been taken.

But we will suppose the negative to be fixed, and that we wish to wash it quickly and thoroughly. The first step to take is to remove all the hypo solution clinging to the glass at the back and edges. We can do this under the tap or in a dish by giving it a gentle rub with a sponge or brush; contrary to the general belief, a mere rinse does not remove it effectively, but a rinse and a rub will do so. Then, draining the negative till water ceases to drop from it, we may place it in a dish and just cover it with water. Messrs. Lumière showed some years ago that a negative was washed as thoroughly when its surface was just covered with water as it would be if it were at a depth of an inch or more. The great thing is to make sure it is covered. After remaining like this for three minutes, it is taken out and drained until it ceases to drip, while the dish is emptied, rinsed out with a rub and refilled. The negative is then put back for another three minutes, when the operations are repeated. After half an hour of this treatment it is completely washed, and only needs a rub with a tuft of absorbent cotton either under the tap or in the dish, and may be stood up to drain and dry. Proceeding in this way, a couple of pints of water are a most liberal allowance for the washing of a half-plate.

The photographer may say that this is far too much trouble; it will not compare in convenience with the mere slipping of the plates into a washer and leaving them there with water running through. On the other hand, the washing is done much more quickly; and there is no need to give half an hour to each negative, as several can be dealt with at once. If a washer must be used, the most effective one has an opening at the bottom by which every drop of water can be drained out of it. This may be closed and the washer filled and left full for three minutes, then opened, and a couple of minutes given to allow it to drain as much as possible, and so on. Three-quarters of an hour should be given in this case, as the elimination of the hypo-laden water is not so complete each time as when a dish is used. Any one who wishes to convince himself of the greater efficiency of this filling and emptying than of any washer with a current of water merely running through it has only to add some violet aniline ink or some permanganate solution to the water in both. He cannot fail to notice how much longer the coloration persists in the running water.

Hypo solution is more clinging than is generally realized. It is, therefore, a great help to quick and thorough washing to give the glass side of the negative a rub with a sponge now and then, and the film side may be held under the tap and rubbed gently with a tuft of cotton.

The washing of prints is different from that of negatives, because, for one reason, there must be some means provided to prevent the prints from clinging together during the operation.

The commonest cause of lack of permanence, as has already been pointed out, is insufficient fixing; and this is greatly encouraged by allowing the prints when in the hypo to remain one on top of another. If dish-room for them all to lie side by side is not available, then the prints must be kept moving all the time of fixing, and a quarter of an hour instead of ten minutes should be allowed, to make quite sure. The proper way to keep them moving is to slide the bottom print out and place it on the top, then slide the next one out and put it on the top, and so on. When the print is put on the top, it should be pushed well under the surface with the fingers, so that the next print when it comes is thoroughly wetted with fresh hypo solution on both sides.

Coming now to the washing of the prints, we have the same principles to go upon as with negatives. Running water is to be avoided; thorough and complete changing and draining are the secrets of success. Each print should have a preliminary rinse in clean water, so that it conveys to the first washing-water as little hypo as possible; and then it may be placed in a dish of water for a minute or two, just as was the case with the negative. But presumably there are many prints to be dealt with. In such a case each has its bath of clean water at first, and is taken out of that and placed in a dish of water with its fellows. When all are in this, the pile is turned over *en masse*, and a dish of clean water being put beside the first, the two top prints are taken out and held by one corner and allowed to drain. When they cease to drip they are put into the clean water and two more taken out, drained, and put in on top of them, and so on until all are in the second dish. The first dish is then emptied, sponged out, filled with clean water, and, the pile being turned over again, the prints are drained two at a time and put into it as before. Care must be taken to prevent any of the drainings going into the clean water, of course.

Eight complete changes of this kind will be found to remove the hypo more effectively than a long time in a washer with running water. It is a great economy of time, and a still greater one of water. There is also the added assurance that the hypo is actually washed out. There are few washers, indeed, in which prints may be left for an hour or two with complete certainty that they have not spent the greater part of the time in clinging together, and nothing is more certain than that as long as they cling together they do not wash.

In the investigation by Messrs. Lumière, to which reference has already been made, they showed that the elimination of hypo from prints can be greatly hastened by squeegeeing. To take advantage of this fact, we may take the pile of prints out of the dish, instead of merely turning them over, place them on a clean piece of glass, cover them with a rubber sheet, and gently squeegee them. The mass is then placed just as it is in clean water, upside down, and the prints are then taken two by two, drained, and placed in a second dish of clean water. When all are transferred they are again taken out and squeegeed. Five or six such washings and squeegeeings should be ample.

No one can fail to see how great an economy of water over ordinary methods of washing is secured by treating the prints on these lines. A dozen half-plate prints can be thoroughly washed with not more than half a gallon of water. What is more, they are not merely put in a washer and *believed* to be washed; they are actually washed, and the fact that they contain no hypo may be depended upon. It is something also to have reduced the quantity of water wasted by ninety or ninety-five per cent; but it is to be feared that this as an argument by itself relies too much on the altruism of the photographer. The real merits of washing in the manner described above are that it is speedy, complete and reliable; in actual practice it will be found by the photographer no more trouble than the old, wasteful and inefficient methods.

There is one word more to be said. It is an undoubted merit of these processes that they do away with long soaking of the prints or negatives. This soaking is in itself most injurious. Not only is a gelatine film at its very weakest when it is wet, and least able to resist the many things which may injure it, but from the very first moment that it becomes wet its decomposition commences. Every one knows the likelihood of a negative that is left in the washer all night being spoiled. Even if it is not actually ruined, its surface is tender and pappy, and most prone to injury when it is taken out. Moreover, if the water is at all

NIAGARA FALLS COURTESY OF "LANDMARK"

alkaline, as most waters are, the color of the image may be completely altered by long washing, becoming much more yellow, and the image correspondingly denser. Much the same applies to prints. The sooner any gelatine film, whether on glass or paper, is finished off and dried, the better for it. Enough has been said surely to show that within three-quarters of an hour from the time it leaves the hypo any plate or print should be ready to be put up to dry.— *Photography.*

❦

WHEN IS THE FIXING-BATH EXHAUSTED?

The Results of an Interesting Investigation by Lumière and Seyewetz

SINCE the foregoing article was written, A. and L. Lumière and Seyewetz have published a very important paper on the limitations of the use of a fixing-bath, showing the amount of fixing it will do before reaching exhaustion, and a copy of this paper lies before us as we write. It gives many details of the experiments which they undertook, which are not without their interest to the scientific worker, but most of our readers will, no doubt, want the conclusions to be drawn from them, rather than the methods.

It must be understood, in starting, that if plate after plate is fixed in the same hypo-bath, a stage is reached eventually, as is well known, when, although the solution appears to be fixing the plate, it is not actually removing the whole of the silver it dissolves; and if the negative is subsequently exposed to light, as a negative must be to be printed, and even, in time, if it is not exposed to light, it will gradually turn yellow, or in bad cases brown, from the silver contained in it. Long before the fixing-bath has reached such a stage it should be discarded; but how much fixing will a solution do before it gets into that condition?

The reply made by Messrs. Lumière is that it all depends. A quantity of hypo making a weak bath, within limits, will do more fixing than the same quantity in a larger volume of water; an ordinary acid-fixer will fix properly only half as many plates as a plain hypo solution of the same strength would do. But, on the other hand, when chrome alum is also present in the acid-fixer, the quantity of work it will do rises to three-fourths of that done by plain hypo.

The actual figures given in the paper, translated into British sizes and measures, are given below; in every case they are only approximate. The standard strength of hypo solution dealt with is fifteen per cent — that is to say, three ounces to a pint. Messrs. Lumière and Seyewetz state that to prevent all risk of subsequent discoloration not more than seventy quarter-plates, thirty-two half-plates, or seventeen whole plates should be fixed in a pint of such solution.

In an acid fixing-bath, containing three ounces of hypo, together with a hundred and forty grains of sodium bisulphite, to a pint of water, thirty-five quarter-plates, or other sizes in proportion, are as many as should be fixed in each pint.

If the fixing-bath has the following composition, a pint of it may be taken as capable of fixing fifty-two quarter-plates: hypo, 3 ounces; sodium bisulphite, 140 grains; chrome alum, 48 grains.

In the final paragraph of the paper to which we refer, a method for finding out whether the fixing-bath is or is not exhausted is given. A drop of the solution should be put on a piece of filter or other pure paper, and examined to see if the spot turns a brownish color when it is exposed to moist air and to light for some little time. If it does, the bath should at once be rejected as no longer in a condition to fix a plate properly.

The great importance of this investigation — second to none that its distinguished authors have taken up — must be self-evident. Different makes of plates and different speeds of the same make differ largely in the quantity of the silver salt they contain, while, as it is only that which is not left to form the image which we wish to fix out, the quantity to be removed must vary alike with the exposure, the degree of development and to some extent even with the subject. The denser and more generally opaque the negative, other things being equal, the less there is for the hypo to remove.

But all these questions are ultra refinements; no one in his senses would wish to work his fixing-bath right to the verge of exhaustion, and the paper quoted above will give the photographer a clear indication of the approach of the stage short of which he ought to stop.— *Photography.*

BY MOTOR TO MT. VERNON

C. H. CLAUDY

(*Prize Winner — Literary Competition*)

WHAT a pity it is that history concerns itself only with events which are deserving of the name, and leaves to imagination only the little happenings, the incidental surroundings, the bits of description which would make the local color of the big event strong enough to resurrect the scene to readers of the pages of the past. True, every anecdote of a great man is cherished as so much gold; but as the years fly on, so many spurious tales are told, so much is put into the hero's mouth that never came out of it, that we doubt with a big incredulity much of this color history when it is fed to us.

We know that George Washington had a coach, and probably four horses to drag it. At Mt. Vernon we can see the stables, and, in the coach-house, what many swear is the original Washington coach, but you may search history from the beginning to the end and never a word will you find regarding the minor travels of that coach. Of course it drove often to Washington, but where is the record of one of those commonplace journeys? And to-day such a record would have an interest. Roads, to-day, are things to be reckoned with — to be gone to and met with pleasure if good, to be avoided and steered clear

C. H. CLAUDY AT MT. VERNON

of if they bear an unsavory reputation. We do not like to be jounced and bounced; we do like to ride smoothly, and we most anxiously inquire, from local sources as well as from guide-books, the state of the roads over which we must run our motor-cars.

Now the particular interest I have in the state of the road from the city of Washington, D. C., to Mt. Vernon, the home of him for whom the city was named, is this. I have been over the road in a motor-car, and I found it so unspeakable as to be literally a disgrace to the state in which it exists, the country which holds the state, and the people who live in the country. If it was as bad when General Washington used it, we should simply be sorry, and argue that without modern methods of both road-making and transportation, all of which he lacked, the state of the road was not to be wondered at. If, on the other hand, the road was better than it is now, the depth of our disgrace becomes too great for words.

I do not mean to say that the road could not be worse. I could easily make a worse road if I tried. I should select a stretch of hilly country, blow a narrow ribbon of it to splinters with a ton of dynamite, sprinkle that stretch with a million boulders weighing from ten pounds to ten tons, fill all the holes with

C. H. CLAUDY ON THE ROAD TO MT. VERNON

mud and water and rest content. I should have made a worse road, I think, though not so very much worse.

Neither do I mean to say that the road is impassable. It is n't, because I got over it, taking the first two motor-cars which ever stood beside the home of the Father of His Country, and brought them back again, and I had a good time doing it, but it was because I expected a hard time and got it, and not because of the roughness, that it was so.

Now this is a matter for some patriotic association to remedy. The Ladies' Mt. Vernon Association has rescued the house and grounds from decay, put everything in apple-pie order, restored everything as nearly as possible as it was in the days when Washington lived there, and they have furnished the house throughout with old and rare colonial possessions, so that it is almost as it was in Washington's time. There is no more revered spot in the United States than this, the home of the Greatest American, and thousands and thousands of people make the trip every year. They go by boat, down the broad and stately Potomac, or by a shrieking, whizzing trolley-line which gets there in a very short time from the city, but they never go by road unless they are crazy for a new sensation or desire an object-lesson in How a Road Should Not be Built; and to my mind this is all wrong. Good roads are a sign of civilization. Good roads leading to any spot we honor are but courtesy to the dead. Why should the road to the most visited tomb in the United States be the most disgraceful road imaginable? If some one, or some collection of some ones in an association or a society, were to take hold of the thing, and work it up, it might be very possible to get an appropriation from Congress and from Virginia to build a road worthy of the name, but until that time let the motorist beware.

Now I have said my caution at some length. Yet if there be a motorist bent on visiting Washington's home who is not afraid his machine will fall to pieces if badly shaken, who does not object to playing the part of loose pea in the pan, let him take that trip, for it is enjoyable from its very roughness, and the accomplishment is something to boast of after the trip is done.

You start anywhere in Washington, turn south to Fourteenth Street, N. W., and follow the tracks. You turn to the Highway Bridge, instead of the old Long Bridge at the river, and across it you are in Virginia. Here the road lies six miles long to Alexandria, and a sorry six miles it is. Brick carts with heavy loads cut it up, and red clay and black loam, the principal constituents of the country, make a poor material to withstand heavy trucking, so you must straddle mud-holes, run part of the way in the ditch, hold the clutch with the foot all the way and forget your nerves. So may you arrive safely. In Alexandria are many quaint and curious sights, all of which local guides and guide-books can give you, but begin with the church where Washington worshiped — easy to find from its tall red-and-white tower. Enter and you will be shown Washington's pew, and those occupied by other famous men and women, both then and since.

Not being an expert guide to the wildernesses of Alexandria, I will not give you explicit directions for finding the Mt. Vernon Pike (Heaven save the mark!). But it lies to the south and the west of the "city," and any one locally acquainted will tell you the proper street down which you should go to find this afore-mentioned Pike. The Pike is but a memory — a name; no toll-gates now rear their offensive little bars to let the traveler through, no association keeps it in repair, no steady stream of traffic demands a good surface. It is but a strip of cleared land — subject to the wills and evils of the weather, and the no less damaging efforts of the farmer road-worker, and its name is Horror and Nightmare.

We went at it merrily enough, and chugged and tooted along for a short distance without a thought of anything worse than the occasional bump and rise in life which the Virginia thank-you-ma'am demands on all roads; but we did not know our troubles. Nor would I expect you to believe me had I not pictures to prove it. One of them shows us literally swimming our cars, although you must take my word for it that this stretch of water lasted for a full half-mile. Here, with many an inward sigh and groan, I descended into the dark and muddy deep, camera in hand, to collect my proof. You can see it is water, and wet, and can guess it is muddy, but you cannot feel the cold chilliness of the clammy, mushy mud about my legs, nor understand the cussedness which exuded from the place where cusses usually come from. The worst of it was that the two cars refused to be incommoded by the water, and kept step with each other, their engines never faltering for all the unexpected shower-bath. Hence, I was the only one compelled to get wet, and the loneliness of my misery did not make it any the less. No, I don't suppose the water is always there. I presume, if you will wait until you find a time of the year when it has n't rained for three weeks, that this stretch will be dry; but it is a natural basin and catches the drainings of several fields, and when I saw it, it had all the looks of permanency of the Atlantic Ocean!

There was another stretch of road where the farmers had been paying the road tax, and dumping new metal on it. Now new metal, in the ordinary sense of the word, is crushed stone — wicked on tires, disagreeable to ride over and barbarous any way as a means of repairing roads, but you can get over it. This new "metal" was nothing but clay and dirt from the fields, dumped on any-how, and left to the tender mercies of those carts which drive over it. The result was that we went *through* the road, not over the surface. Unfortunately for the teller of tales of motor-rides, no picture of a bad road ever makes it appear more than fifty per cent as bad as it really is. Hence, you might be inclined to think the surface troubles exaggerated on looking at the picture I made; but if you were to examine it closely, you would see that it represents sticky mud and not mere dirt. Anyway, it took us half an hour to get over two miles — and that is about the speed of a pedestrian.

Then there was a hill, which we went down in all innocence, just before we arrived at the gate of the Mt. Vernon grounds. It was a decent surface and we coasted. Suddenly I saw something, I hardly knew what, and yelling aloud to the machine behind, we slammed on brakes and made ready to jump. Right on the edge we stopped — the edge of a wash-out, three feet deep, six wide, and all across the road. Had we not seen it in time — and thirty feet away it was invisible — we should have continued our trip, doubtless, but through the air, and the remains of the machines would probably be sprouting there now.

So we hauled logs and fence-rails, built a little bridge, and crawled over, and then we saw the gates and were at rest.

At first it was doubtful if we got into the grounds. No motor-cars had ever tried it before — there was no precedent for such a thing, and undoubtedly we meant some harm some way to some one or something or we would not have tried to come in that unusual way. So apparently argued the custodian; but on my earnestly representing that we were of peaceful design and only wanted to find out about the road with the hope of getting a better one, and that a picture of the mansion with an automobile in front was a necessity, did he allow us to get in. Even then we had to first walk through the turnstile and pay our money, and then walk back again and take in the cars. And we must keep them very quiet and not make any noise, nor must we go on the grass, and so — although it would have done no bit of harm — we had to go without the picture we wanted most of the autos in front of the porch where General Washington used to sit and watch the river flowing by; but we got some photographs of the other side of the mansion, and they are sufficient evidence that we really made the trip — twenty miles and return — and in six hours. That we returned alive the present story evidences.

It is a rough trip, a bouncy trip, a trip hard on car and man, but a motor achievement. I do not imagine that any words of mine can be directly responsible for any change in that road which may be made, yet some one's work will call it to the attention of those who will do what should be done, and if enough motorists can be got to take the trip and talk about the disgraceful condition of the road, the trick will be turned. Who will next show a picture of his own auto in front of the home of General Washington?

❧

PLACING PRINTING-PAPER ON MATS

DAVID GRAY ARCHIBALD

THE placing of mats on negatives to get white margins on prints is more or less troublesome — the more so if the paper be very near the size of mat-opening through which you are printing. A good plan that works out well in practice is to arrange so that a light shines up through the negative when you are placing the paper. This is easily done, if you have electricity at hand, by simply taking a sheet of ground glass and supporting it on either side with a pile of books. The electric bulb is placed beneath the glass; the printing-frame is laid on this glass as if on an ordinary table, the negative is put in, and then the mask and paper together are placed on top of the negative. You can see, by looking down, just when it is in the right place. When so, hold in position with the thumb and first finger of the left hand and place the back of the frame in place with the right hand.

If you wish, you can expose it thus without moving it, by having the light beneath it sufficiently strong in actinic rays. To make the light non-actinic, put a sheet of yellow glass beneath the other, and withdraw it during exposure.

For gas or kerosene-lamp light you will have to make your light shine through the negative by reflection. This can be accomplished by placing a piece of white cardboard at an angle of 45° between the piles of books and beneath the glass. The light shines on this from one side.

EDITORIAL DEPARTMENT

THE ART OF PICTURE-MAKING

SO much has been preached about the application of art-principles to photographers by well-intentioned speakers, particularly at the yearly conventions of the professional workers, that one wonders at the paucity of the results of these numerous and oft-repeated pleas. "Study the old masters, then you will know how to make artistic pictures!" This is the cry of the convention orator, anxious that his fellow-workers should become artists and partake of the glory reaped by the leaders of *die neue Richtung*. So the busy professional returns home, determined to profit by the sage advice. Straightway he invests in a collection of photographs or other forms of reproductions of the works of great painters and sculptors, and dutifully devotes himself during his leisure hours to the analysis of their merits. With the aid of some good work on pictorial composition he is enabled to discover the underlying art-principles, and naturally supposes that the picture was constructed strictly in accordance with certain laws. This is a mistake many such students make. Most of them — and the fault is not theirs — have no innate love of art, and little intelligent appreciation of what is really beautiful. True, they are attracted by pictures and experience a sense of pleasure in looking at them, very much as children enjoy their picture-books, except that their emotions are stirred, for their understanding and feelings are matured. They might attend art-schools for years and absorb considerable knowledge of the laws of perspective, proportion, light and shade, harmony of line and the rest. All this, however, will not make them artists, unless they are endowed by nature! In that case they will voluntarily be drawn to the sources of truth; no lecturer on art will need to urge them. They will begin young. The spirit of true art will manifest itself in various ways and, at the proper time, trustworthy guides — private teachers or art-schools — will impart the necessary aid to the cultivation of the germ.

The worker desirous to be classed with his really talented fellows must know that true art conceals art, and that when an artist creates his picture or interprets an inspiring theme, he does so without being conscious of rules or precepts. The process is entirely spontaneous. It is the action of the mind guiding the brush or pencil flowing as smoothly as the waters of the brook. The impelling force comes from within and is a part of his natural self. He has a feeling that everything he does is right. When he discriminates in the selection of certain objects in the landscape — he does not reproduce all that is visible to the ordinary eye — it is scarcely the result of deliberate, cold-blooded calculation, but rather that of unrestrained spontaneity. Thus operate his faculties as he instinctively applies the lesson taught him by his master. He absorbed the elements of art — composition, balance, form, etc.— without effort, and in the same manner he puts them into practice. The technical side of his art does not seem to exist for him, for he scarcely considers it — precisely like the true, inspired musician, as he draws the tones from his instrument. The moment the mind of the tonal artist is filled with the mechanical details of the composition he is executing, the interpretive quality of his playing takes flight, and the performance no longer reflects the spirit of the work. The performer cannot concentrate his faculties upon the intricacies of technique and at the same time commune with the spirit of the composer. He must become so proficient with the resources of his instrument that, in giving full sway to his emotions, he can dismiss all concern of technical difficulties. Then is art supreme. A mere display of technical mastery is not art. It may astonish, but it does not thrill.

One thing the photographer should bear in mind is that no matter how well he may know the rules of art, their mere application will not make a picture. A well-developed æsthetic sense, poetic feeling combined with an intelligent appreciation of the beauties of the scene to be pictured, are indispensable requisites and proclaim the artist. As he wanders through forest and field in search of a subject for his camera, the artist-photographer carries with him no diagram to which a picture must conform. For the time being his mind is not concerned with art-rules. His artistic nature is aroused; his emotions are stirred; and yet he must choose his view-point and secure the proper balance to his picture. In this he is guided by an intuitive sense of what is right. But it will not do to lose himself entirely in the admiration of his subject. The manipulation of the apparatus and timing of the exposure require judgment and a cool head, as we all know. It is well also to keep a watchful eye on stray animals that may or may not be wanted as additions to the landscape. Curious persons or passing teams likewise will claim a share of the worker's attention, and his celestial thoughts are bound to be interrupted and to attach themselves to things material. One shudders in contemplating the awful calamity that might befall the camerist too engrossed in his loving task. Bulls in the field and automobiles on the highway are not always to be trusted.

RATIONAL PORTRAITURE

THIS is not a plea for sane work in photography. It is a waste of words to try to reason with a class of experimentalists — strictly speaking, they are not photographers — who, because of no practical understanding of the art, have ventured to urge upon a patient or indifferent public childish and ludicrous attempts to portray the human face. Happily this species of photographic quacks has had its day, although for a time it made considerable noise. There is talk now of sane methods. Strangely enough, the "fuzzytypist," of whom little now is heard, and whose husky voice will soon be hushed in death, shows no symptoms of conversion to sane methods of technique. Why? Because he is not equal to the emergency. He lacks even ordinary ability. Thus he has vanished, and he is likely never to reappear in any guise.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the Photo-Era.

"I Martius am! Once first and now the third!
To lead the year was my appointed place;
A mortal dispossessed me by a word,
And set there Janus with the double face.
Hence I make war on all the human race;
I shake the cities with my hurricanes;
I flood the rivers and their banks efface,
And drown the farms and hamlets with my rains."

Thus speaks March the vindictive, and, though his winds are whistling through the trees, we know that spring is already knocking at winter's door and demanding entrance. So we take heart, even though the rough old month blusters his hardest, for soon he must away and we shall be free to foot it over green hills and down mossy dales.

Many things are planned for the improvement of Guild work. First and foremost, special pains are to be taken with the monthly Guild competitions. Some interesting subjects are on the tapis, as may be seen by consulting the announcement of subjects for competition in this issue.

Another feature of the Guild work to which a great deal of attention will be paid is the Historic Picture Record work, and prizes will be offered for efforts in this direction. Some interesting developments along this line may be expected.

These are only hints of what is in store for the benefit of our Guild, and for its pleasure as well.

We want to add to our membership list, so will the Guild members please do a little missionary work among their friends and ask them to join? No fees, no dues. The name and address of the amateur is all that is required.

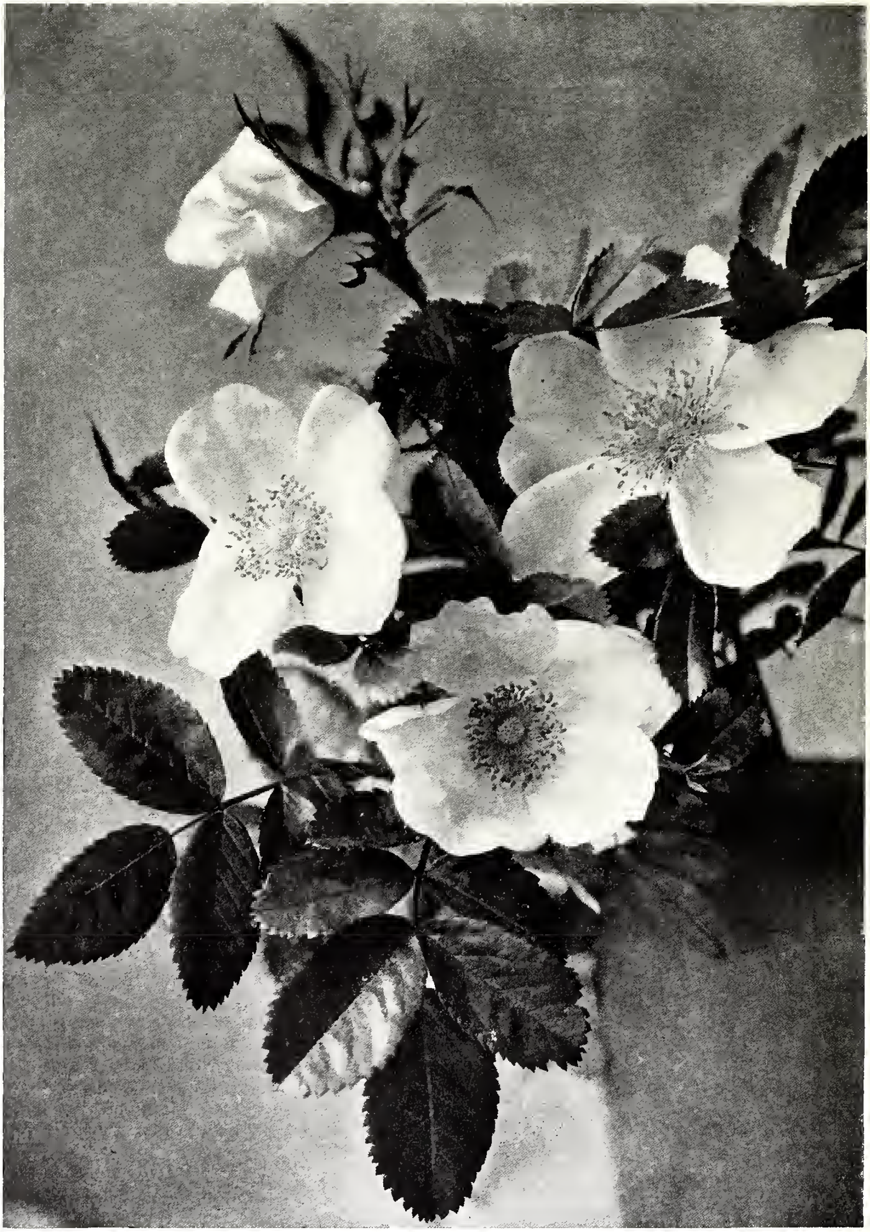
This is to be our record year in all departments.

LANTERN-SLIDES WITH PEN AND INK

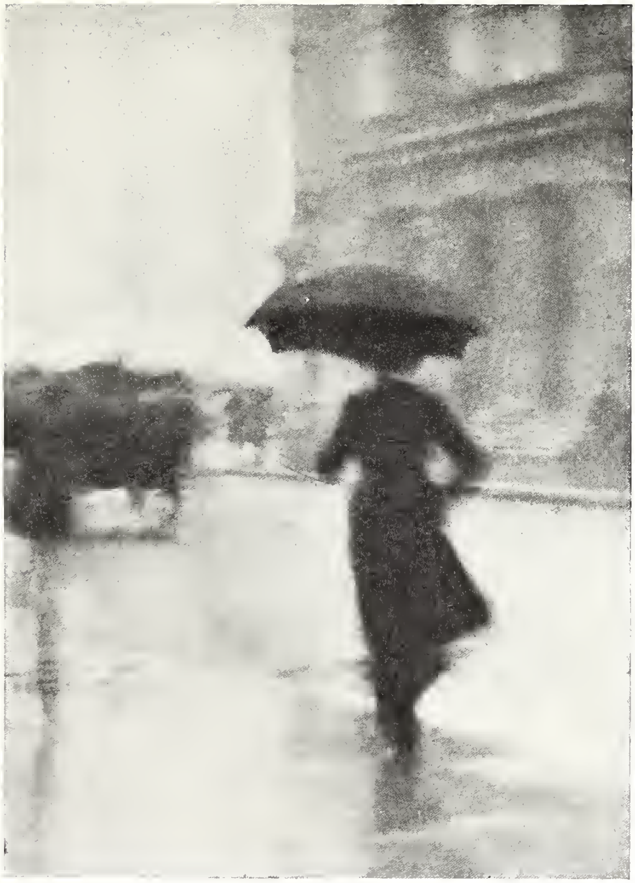
When making a series of lantern-slides it often happens that a desired illustration cannot be made in the camera. In such a case the clear crystal cover-glass may be utilized by coating it with varnish and drawing the picture directly on the prepared surface with a drawing-pen and waterproof ink. The varnish which is very transparent is made of one-fourth ounce each of gum sandarac and gum mastic, ten ounces of sulphuric ether, and two ounces of benzole. The glass is flowed with this solution and dried in a place free from dust. It gives a matt surface which takes pen and ink readily. Every imperfection in the glass is highly magnified on the screen, so in drawing be careful that the lines are not blurred and do not overlap. The drawing is simply in outline, the lines suggesting rather than portraying the picture. If it is desired to preserve the picture indefinitely, then after the drawing is dry flow over the surface of it a varnish made of one-fourth ounce of gum sandarac and gum mastic dissolved in eight ounces of sulphuric ether. Any one skilled in the use of a pencil can make very clever slides as directed.

SENSITIZING POSTALS

For the amateur who wishes to sensitize his own postals, a sensitizing-solution may be bought ready prepared which is easily and quickly applied to any smooth surface, and which when dry makes a very good print. It is in black and white when



WM. C. STARR
FIRST PRIZE — FLOWER STUDIES



D. H. BROOKINS FIRST PRIZE — RAINY DAY SCENES

finished, and is simply developed in water, then fixed in hypo. It is almost as cheap as the blue-print solution, and if prints are made from good negatives they are very pretty souvenirs.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

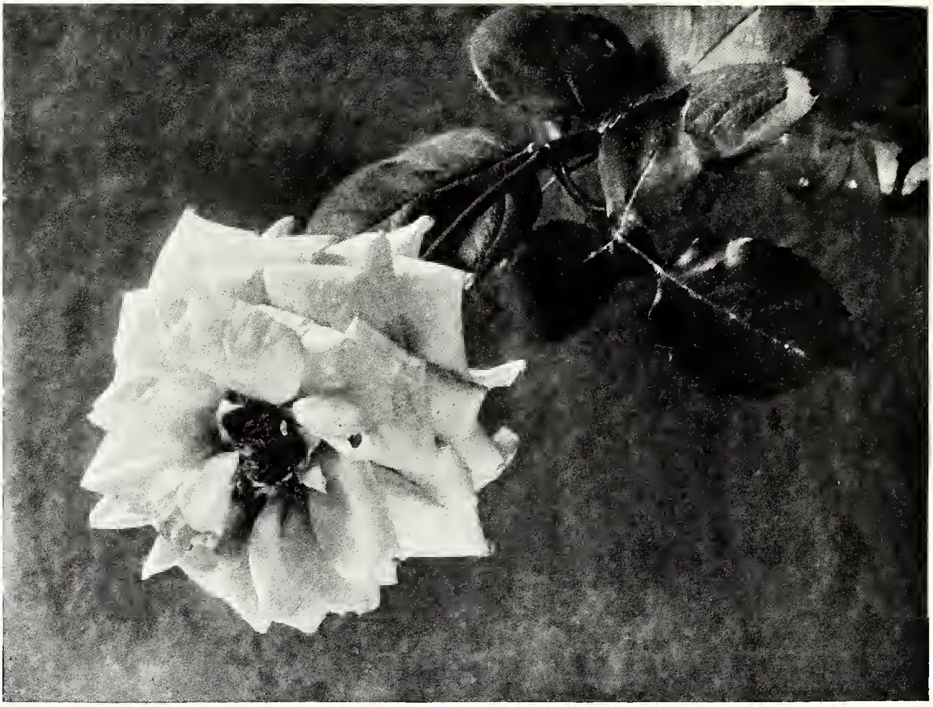
Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts or other photographic materials advertised by us, or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in the Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is also free to all, whether subscribers to Photo-Era or not.

SUBJECTS FOR COMPETITION

February — "Post-cards." Closes March 31.
March — "A Windy Day." Closes Apri1 30.



MRS. G. L. GILBERT SECOND PRIZE — FLOWER STUDIES

April—"A Showery Day." Closes May 31.
May — "Nocturnal Photography." Closes June 30.
June — "Interiors, with Figures." Closes July 31.
July — "Landscapes." Closes August 31.
August — "Waterscapes." Closes September 30.
September — "Sunsets." Closes October 31.
October — "Windows and Doorways." Closes November 30.
November — "Genre Studies." Closes December 31.
December — "Home Portraiture." Closes January 31.

AWARDS — FLOWER STUDIES

First prize: W. C. Starr.
Second prize: Mrs. George L. Gilbert.
Third prize: Charles Tracy.

Honorable Mention: Mrs. H. A. French, M. E. Baumberger, W. E. Bertling, R. A. Buchanan, A. R. Hutten, George G. McLean, Grace E. Mounts, Mrs. J. L. Pike, Miss E. Brook Poole, Edmund H. Royce, Wm. S. Rice, Miss Florence Marie Roberts, Jno. M. Schreck, Wm. Spanton, Robert M. Storms, Mrs. E. E. Trumbull, U. LeRoi Upson, Harry D. Williar, G. Wallace Williams, Gilmer Winston, A. Eleanor Woodside.

AWARDS — RAINY DAY SCENES

First prize: D. H. Brookins.
Second prize: F. A. Fairbanks.
Third prize: Madison Phillips.

AWARDS — SNOW SCENES

None of the Round Robin Guild monthly contests has brought forth more entries of a better quality of work than that devoted to snow scenes, which closed January 31. Although a higher standard of excellence, both technically and artistically, was struck than ever before in the history of the Guild, it is a much more pleasing duty to record the fact that these excellences did not apply to the work of a few, but characterized practically the entire collection of prints submitted. It was, therefore, no mean task to award the prizes.

We are greatly interested in watching the progress Guild members are making in pictorial perception, as well as in handling their favorite medium of expression, and, as the monthly competitions are the visible indication of this progress, we are much pleased by the increasing attention which this department is receiving. We hope that every Guild member will do his part toward making these contests a success, thereby deriving the benefits which accrue from honest competition.

First prize: W. H. Evans.

Second prize: Lewis P. Craig.

Third prize: James S. Escott.

Honorable Mention: Wm. Wheelock, Chas. Vandervelde, Geo. S. Lynn, Paul Fournier, W. E. Bertling, R. E. Weeks, Mrs. George L. Gilbert, W. E. Baumberger, Harry D. Williar, L. M. Reigtmeyer, Mrs. H. R. Davis, W. L. Andrew, O. E. Kennedy, M. A. Yauch, Mrs. A. F. Turner, W. L. Dubois, Mrs. E. E. Trumbull, D. H. Ruse, Louis R. Murray, H. E. Stout, J. E. Mars, H. D. James, W. F. Kuehl, Miss Susie Cummings, Maud S. Lee, F. J. Youngblood, E. D. Leppert, M. E. McDougall, Mrs. G. J. Hawes, Carl W. Daines, Russell Wherrett.

PORTRAIT PHOTOGRAPHY

The amateur who essays portrait-photography — a phase of the art at once the most fascinating and the most difficult — should know something about lines and curves, understand the value of shadows, and know what to suppress and what to bring into prominence. He must produce in monotone what the painter does with colors — a really artistic picture.

The ideal room for portrait-photography is the same as that chosen by the painter, a room on the third or fourth floor, or even higher, with a north light. The reason why a painter chooses the north light is because it is a more even light, and does not fluctuate as does the light in a room where the sun shines into it some portion of the day.

Most of us cannot command such a room, and we must learn the possibilities and limitations of the one at our disposal. With white reflectors and properly adjusted screens one can secure almost any sort of lighting he desires, and, with care in manipulating his camera, obtain excellent results.

If one has studied portrait work, then he is already well fitted to practise portrait-photography. If such is not the case, however, then his best plan — lacking a teacher — is to buy photographs of some of the best works of the masters of portrait-painting and study well the posing and lighting of the subjects. Then with a certain picture as a model, choosing at first the most simple, both in composition and lighting, pose the subject and endeavor to have the lighting correspond as nearly as possible with that of the study chosen. If the first attempt is not successful — and the chances are that it will not be — then try another and another from the same study until the result approaches in some degree the model.

For the beginner in portrait-work the most pleasing results will be obtained if the face is turned away from the light, as the shadows give softness and roundness to the features. If the head is turned to either side care should be taken that it is not turned so far as to bring the muscles of the neck into prominence, as the effect is very unpleasant. The lighting of the face should be so adjusted that the lights and shadows seem to melt and blend into each other with no sharp definition between. This effect is termed the proper gradation of lights and shadows, and this treatment of the lighting distinguishes between the photographer with and the photographer without artistic training.

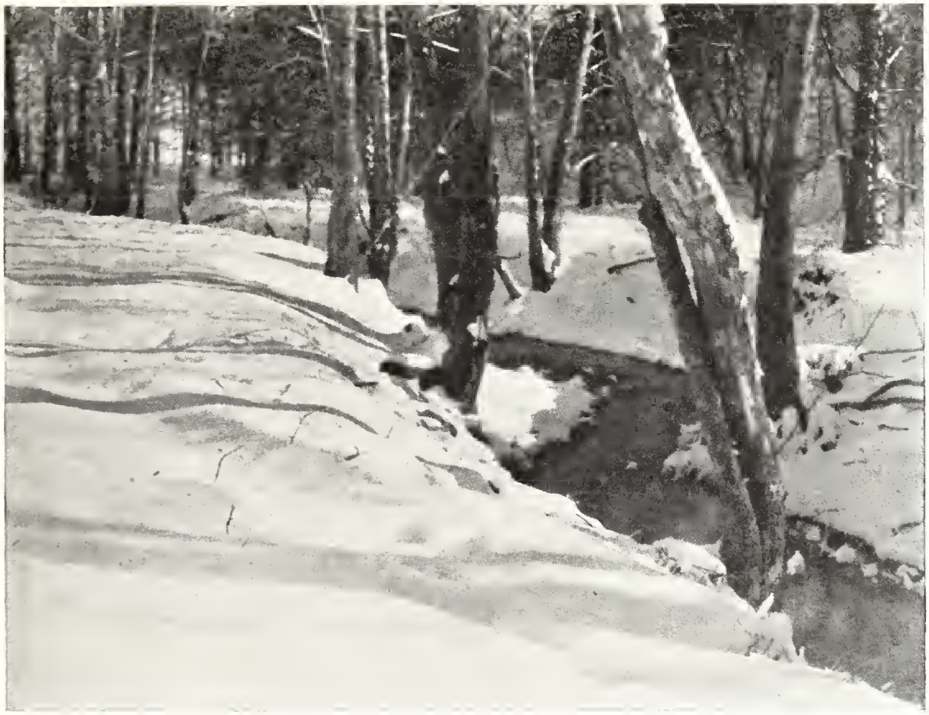
The hands are perhaps as difficult a part of portrait-photography as one encounters. They should be kept in shadow as much as possible, and in posing, the side, instead of the back, of the hand should be turned toward the camera. One should never try to arrange the hands of

LEWIS P. CRAIG SECOND PRIZE — SNOW SCENES

a subject. If the position of the hands does not seem pleasing, ask the subject to lift them and drop them again in the lap. The muscles of the hands when at rest should be relaxed, but the sitter before a camera is all too prone to hold his hands stiff and rigid. The fingers should seldom if ever be doubled or shut, as it gives the effect of stubbiness to even the most slender hand. Sometimes it is a good idea to use a book or a small picture in the hand, choosing for the book a small volume with rough leaves in yellowish tones. The picture should be on a rough mount of dull gray or deep cream. Where use is made of a book with shiny leaves it gives a strong high-light where a high-light is not desired. The light is always concentrated as much as possible on the face, the figure and accessories being subordinate in tone and decorations.

The sitter should not be allowed to look straight into the camera. The focus of the eyes on an object so near detracts from the expression, and the result is not so pleasant as when the sitter looks beyond the camera at some distant object.

The dress of men and boys has little of the artistic, but the dresses and draperies of girls and women are full of artistic possibilities. One point to remember is that the simpler the dress the more artistic will be the picture. If one wishes to make a picture which shall not lose its



JAMES S. ESCOTT THIRD PRIZE — SNOW SCENES

charm in after years, then use a very simple gown, and have the hair dressed loosely and in none of the exaggerated fashions of the moment.

In focusing for a portrait use one of the largest, if not the largest stop, focus on the eyes, then turn the lens outward just enough to do away with the sharp focus. The exposure varies with the light and with the rapidity of the plate. On an ordinarily bright day, with quick plates, an exposure of five seconds is quite long enough, but if the day is dull or the sitter placed some distance from the window, the exposure should be prolonged to from fifteen to thirty seconds.

Do not make your subject wait too long. Have everything in readiness, and work quickly. If one spends too much time in arranging and rearranging his accessories and posing and re-posing his sitter, both operator and sitter will become tired and the picture will be a failure.

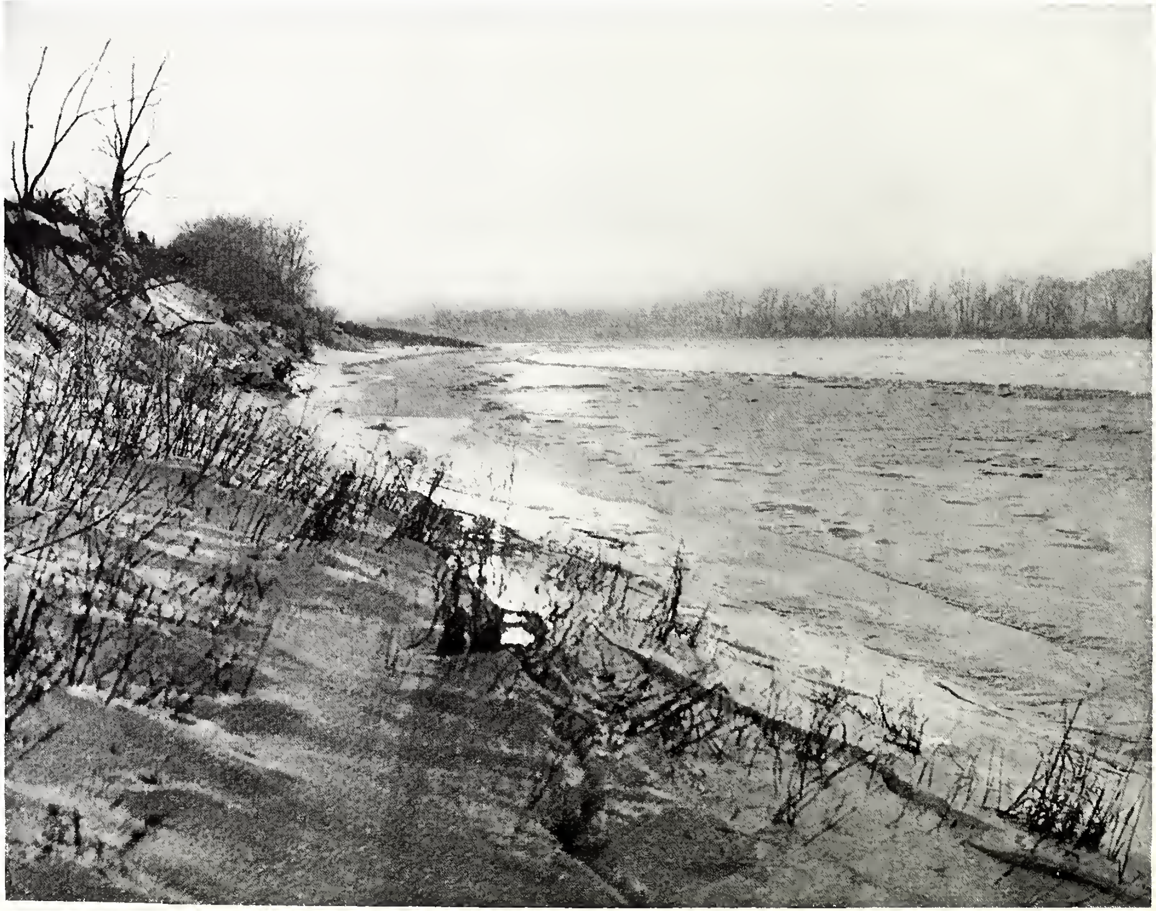
Never being satisfied with one's work is the way to advance; though you do well, do not give up the idea that you can do better.

DEVELOPER FOR TRANSPARENCIES

The following formula for hydroquinone developer produces very clear and brilliant transparencies. It is also a fine developer for negatives where good strong contrasts are desired.

Water……………………	20 ounces
Hydroquinone ……………	60 grains
Sulphite of soda, crystals ….	$\frac{1}{2}$ ounce
Bromide of potassium…….	6 grains
Dry carbonate of soda ……	1 ounce

Mix in the order named, and use without diluting. This developer may be saved and used for over-exposed plates, as in the used form it controls development and produces the desired contrast which an over-exposed plate lacks, and which is hard to obtain by any after-treatment when developed in the ordinary way.



W. H. EVANS FIRST PRIZE — SNOW SCENES

ANSWERS TO CORRESPONDENTS

F. L. T.— Back numbers of The Photo-Era may be purchased at the Photo-Era office. Some of the early numbers are out of print, and on some special numbers the price has advanced. If you will write just what numbers you desire, word will be sent you if they are in stock, and at what price they may be procured.

W. W. Roberts.— Halation is a term used to denote "local fog." It occurs in photographs of interiors where windows are included in the pictures. It often occurs in landscape-views around the foliage of trees that are outlined against a sunny sky. In making interior views one should use double-coated non-halation plates and avoid the fog or blur which is present when ordinary sensitive plates are used.

W. Clark.— Your prints which have become yellow may be restored by placing them for a few minutes in a ten per cent solution of ammonia, or they may be bleached in a weak solution of bichloride of mercury. As soon as the yellow tone has disappeared, wash the print thoroughly, fix it in hypo — 1 to 10 — and wash again. If you have the negatives it would be wiser to make fresh prints, rather than to undertake to restore the yellowed ones.

F. G. Charles.— A formula for paste that will not cause the print to curl or cockle is made of gelatine — four ounces dissolved in eight ounces of water. Strain and add one-half ounce of glycerine and one ounce of alcohol.

Ellen M.— The prints which you enclose are evidently made from a much over-exposed plate. There is really no way of obtaining better prints from such a plate than the ones which you have made. The advice of the editor would be to throw away a plate of this description and either make a new negative or, if the negative is not obtainable, console yourself as well as possible for the loss. In future experiences of the sort, take special care not to over-expose, but if over-exposure occurs, treat the plate in developing according to directions already given several times in this department and you will obtain a fairly good plate.

E. G. H.— If the nitrate of silver solution has turned brown, filter it through two or three thicknesses of filtering-paper and it will clear. Any solution not in daily use should be protected from the air by immersing the top of the bottle in melted paraffine or turning melted wax over the cork and lip of the bottle.

Merton G.— A print for reproduction should be made on glossy paper, as it gives better results in the half-tone reproduction than if made on the matt surface papers, like Velox and platinum, even if in black-and-white tones.

D. L. Overton.— The price of photographs for illustration varies with the subject. If of special interest, such as pictures of catastrophes or of current pictorial events, the price is much higher than for pictures of more circumscribed interest. Then, too, each paper or magazine has its own rate of payment, and for what one might be willing to give ten dollars, another would think two dollars a good price. The Photo-Era published at one time a list of papers conducting prize contests, and those which were a good market for photographs. We expect to resume this feature of the magazine at an early date.

Carol D. C.— In printing from your thin negatives try placing the frame at the bottom of a box eight or ten inches deep, or print through ground glass. This retards the printing process and gives depth of tone, which the print made in direct sunlight lacks. Intensifying your negatives will help the printing-results.

Bertha B.— If you are looking for the picturesque, why not visit the markets in your own city some busy market-day? You will find many interesting studies, and if you want a bit of foreign flavor in your picture do not omit the Polish market, where strange and curious people meet to buy strange and curious things. A market in most large cities well repays the visit of the amateur, for the vendors are themselves most interesting types of people.

The Crucible

LANTERN-SLIDES IN COLOR

Although we usually think of a lantern-slide as being in black and white, it frequently happens that pictorial qualities may be enhanced by the employment of color. A beginner in this interesting branch of work should first become proficient in making black slides, after which he may properly turn his attention to the production of color effects.

There are two distinct methods of altering the tone of a lantern-slide: it may be developed out with a colored image, when a permanent result is obtained, or it may be developed out black in the ordinary way, and the image converted by toning into one composed of an altered chemical compound with a changed color. As permanence is the *sine qua non* of all photographic processes, especially in the case of lantern-slides, because the conditions to which they are subjected are far more trying to their stability than those to which prints are usually exposed, it is surprising that so little advantage has been taken of the first-named method.

DEVELOPMENT METHOD

By slightly over-exposing a chloride or chlorobromide plate, and using a suitable solution for its development, it is possible to obtain red, yellow, mauve, sepia and brown tones; these may be toned by means of a gold bath, and a bright blue result produced. As far as chemistry can tell us, all such results are unalterable, especially as the film is generally protected from atmospheric influences by the cover-glass. The production of these colored images is a purely physical process; it is difficult to explain how the silver image can be obtained in such a variety of tones, but probably only partial reduction of the original salts takes place. It is certain, however, that if the image be slightly warm instead of black it is readily amenable to treatment with a gold bath, and thus we have a still further variety of colors at our disposal.

Where several slides are to be made, the easiest way to obtain bright red tones is by slight over-exposure and very weak development with hydroquinone and caustic soda. A good developer for dilution in this way will be found as follows:

A

Hydroquinone	15 grains
Potassium metabisulphite	15 "
Potassium bromide	3 "
Water	4 ounces

B

Caustic soda	20 grains
Water	4 ounces

Ten per cent bromide solution is also necessary, as it is desirable to vary the quantity of restrainer to produce the differences of tone. The exposure should be given to daylight, and may vary from two to twenty times the normal, more bromide being added to the developer as exposure is increased. As a typical example, we might take the following. Fifty seconds' exposure is given to a plate under a medium negative to diffused daylight (i.e., not direct sunlight). One ounce each of A and B are mixed together, and ten ounces of water and a few drops of bromide solution added. In very weak gaslight the development may now be carrried out; but as it will take perhaps twenty minutes or longer, it is as well to do several at once.

A few trials will enable one to find out to what extent exposure must be increased and the developer diluted in order to give a desired color, and if several slides are wanted, all of one tone, identical results will be obtained by giving the same time of exposure and development. Half a dozen plates may be placed in an 8 x 10 dish, covered with developer, and left to develop up at leisure, being examined perhaps every five or ten minutes.

It is a singular thing that, provided the image obtained by development is at all warm in color, it may be toned by a gold bath; a red slide, if placed in the combined toning and fixing bath instead of ordinary hypo, will assume a chocolate tint during fixation. But beautiful deep blue and violet colors may be got by toning a red or warm-black slide, after it has been fixed and *thoroughly* washed, in some such bath as the following:

Ammonium sulphocyanide	30 grains
Water	10 ounces
Gold chloride	2 grains

A short washing after being toned is sufficient to make the slides permanent.

TONING–METHODS

Despite the straightforward nature of the operations, the certainty with which they may be carried out, and the inexpensive nature of the development process, the majority of workers prefer to get a good black-tone slide, and alter it to a brown, green or blue by means of uranium or iron toning-baths.

Assuming that a black image has been obtained in the ordinary way upon either a bromide or chloride lantern-plate, this plate may be converted into a colored picture by causing a deposition of some metal upon the reduced silver of the image, or by converting it into a compound substance by means of some metallic salt.

There are four chief colors which may be imparted to the black slide, though a large number of tints may be obtained which we class under one or other of these heads: red, including orange, red, sepia, etc.; blue, including bright blue, dark blue, greenish-blue; green, including bluish-green, dark green.

Two solutions only are necessary, and they are made up as follows:

A

Uranium nitrate	30 grains
Potassium ferricyanide	25 “
Acetic acid	5 drops
Water	6 ounces

First dissolve the uranium, then add the other chemicals; shake well from time to time, keep for a week, and filter. The filtered solution keeps indefinitely in the dark, or in a deep orange-colored bottle.

B

Ferric-chloride	15 grains
Water	3½ ounces

The one thing essential to success is to use a thoroughly-washed black-tone lantern-slide absolutely free from hypo.

A gives all red tones, according to length of immersion. When of the desired color, the slide must be placed in a two per cent solution of ammonium sulpho-cyanide until the whites are clear, and then thoroughly washed.

If now placed in B for a few moments, rinsed and dried, a green tone will be obtained. Longer immersion produces green-black tones, and finally blue. If a bright blue color be desired, it is only necessary to rinse a slide when toned with B after A in very dilute nitric acid.

There we have the whole method in a nutshell, so to speak; columns of writing are quite useless, as a few simple experiments will show the reader what a variety of colors can be obtained when the operations are carefully carried out with the baths given.

It must be remembered when making green or blue slides, by using the B solution after treatment with A, that in drying, the color becomes much "bluer;" hence for a greenish-blue tone we must wash and dry the plate some time before it has reached the particular shade we desire to have in the finished picture.

A SCREEN FOR ACCURATE FOCUSING

If accurate focusing is necessary, it will be found that the ordinary ground-glass has too much grain to permit of the minor details being readily seen. The apparent grain may be greatly reduced by applying oil, vaseline or glycerine to the ground surface. Only enough should be used to give the glass a trifle more translucent effect. This method will be found of service in focusing dimly-lighted interiors or copying dark pictures.

A LEGITIMATE USE OF THE PINHOLE

In the autumn, winter and early spring the irritating effect of a network of leafless twigs in the middle and extreme distance is often a source of annoyance to the worker striving for pictorial effect. This is especially true in clear, fogless weather, and at such times he can, with benefit, bring to his aid a pinhole in place of a lens, the result being breadth and a greatly-subdued effect. Although exposure will be much longer than with a lens, it should occasion but little trouble even in windy weather. An occasional puff of wind can hardly be expected to disturb the branches for more than one in twenty seconds, and this will not matter. If the gusts of wind are longer and more frequent, it is an easy matter to stop exposure during such periods and resume afterwards, until sufficient time has been given.

LONG EXPOSURE IN WINDY WEATHER

How frequently it happens that an exposure of several seconds is desirable when the wind is blowing in such fitful gusts that the trees are kept almost continuously in motion. It may not have occurred to the tyro that by careful observation he can find periods of a second or half a second when the branches are at rest. It is, therefore, an easy matter to break up an exposure of, say, five seconds into ten exposures of one-half second each.

AN UNBREAKABLE FOCUSING-SCREEN

Did you ever unpack your view-camera and find the ground-glass broken and no substitute at hand? To avoid such an exasperating contingency it is a good plan to carry in the camera-case a piece of rollable, transparent celluloid, previously flowed over with the following ground-glass varnish:

Gum sandarac	90 grains
Gum mastic	20 “
Ether C. P.	2 ounces
Benzole	1 ounce

LENS STAINS

Old lenses frequently show traces of peculiar colored stains which appear to be in the glass itself. These are due to the Canada balsam between the glasses of the lens. The average photographer can easily remove them himself, but if the lens is an expensive one it will be safer to have a lens-maker take the matter in hand. Remove the lens from its cell and place it in lukewarm water for five minutes or so, and then add more hot water gradually, so as to give the glass ample time to warm up and prevent cracking. After a while the glasses can be separated easily and should be cleaned with methylated spirit or ether, polished and recemented together again by placing some Canada balsam in the concave lens and pressing the convex down on to it, using heat, if necessary, to obtain close contact, and then cleaning off excess and putting into the cell.

RESTORING FADED PRINTS

Old prints which have faded after many years' exposure to the light may be restored in accordance with the directions given below. Bleach the print in the following solution:

Potassium bichromate	1 ounce
Common salt	½ “
Hydrochloric acid	1 dram
Water	30 ounces

After the print is bleached, wash thoroughly and develop with hydroquinine and wash again.

MOONLIGHT EFFECTS

To produce so-called moonlight effects, use a yellow filter and rapid isochromatic plates. Photograph against the sun at a time when it is partially behind a cloud, calculating the exposure as if for a sea-and-sky view. Do not over-develop, or the highest lights of the white clouds will be blocked up. Print much deeper than usual, and if unusual effects are desired the paper may be stained to a greenish-blue with aniline dyes or a ferrous salt and potassium ferricyanide.

PHOTOGRAPHING DRAWINGS WITHOUT A CAMERA

For copying small but elaborate drawings like Patent Office drawings, says a writer in the *American Machinist*, there is probably no method so quick, accurate and cheap as the following. Procure a photographic dry-plate of the size required (8 x 10 is usually large enough for Patent Office drawings, the rest of the sheet being taken up by margins, title and signatures). Place the drawings and plate in a printing-frame, the drawing with the back side out, so that the lines will be in contact with the film on the plate. This must be done in a dark room. Expose the frame to dim daylight for a period of, say, five seconds, at a distance of about ten feet from a north window, or one through which the sun is not shining. Develop with the following :

No. 1. Hydroquinone Solution.— (*a*) Water, thirteen ounces; sodium sulphite crystals, one ounce. (*b*) Water, two ounces; sulphurous acid, one-half ounce (not sulphuric).

Add solution (*a*) to (*b*) slowly, then add: Hydroquinone, one hundred grains; potassium bromide, thirty grains.

No. 2. Alkali Solution.— Water, five ounces; sodium carbonate (dried), one-half ounce; potassium carbonate (dried), one-half ounce.

To develop, mix three ounces No. 1 with one ounce No. 2.

If the exposure has been correct the development will proceed slowly until the background is as black as ink, the lines remaining clear white in the negative. Fix and wash as usual.— *The Photographic News.*

STAINS ON DEVELOPMENT-PAPERS

Yellow spots are a source of great annoyance to beginners in development-paper work. Careful observance of directions, cleanliness and system in the process of developing and fixing, will obviate this difficulty, but stained prints need not be thrown away. Place them in the following solution:

Water	8 ounces
Powdered alum	¼ ounce
Sulphuric acid	½ dram

If the prints have just been made the stains will disappear almost immediately, while old prints require only a few seconds' immersion in the solution. After this treatment rinse and dry.

WATER-PROOF GLUE

Water-proof glue is frequently of service to the amateur worker, and it may be made of one part India-rubber to three parts gum shellac. Each should be dissolved in a separate dish of ether, free from alcohol, by supplying a gentle heat. When quite dissolved, the two solutions should be mixed and kept for a time in a bottle tightly sealed. Glue of this nature resists the action of either hot or cold water and many acids and alkalies.

NOTES AND NEWS

LANTERN-SLIDE MAKING

One of the most practical, as well as the most popular, numbers of THE PRACTICAL PHOTOGRAPHER SERIES is "Lantern-Slide Making," from which "A Practical Introduction to Lantern-Slide Making" by Rev. T. Perkins, M.A., is quoted. This handy volume tells, in an interesting way, what a good slide should be, and how it may be obtained. From a suggestion of the kind of negatives required, the reader is taken through the various stages, such as exposure, printing optically and by contact, development, clearing, intensification and reduction, drying, masking, binding, spotting, toning, coloring, combination cloud-printing and many other valuable pointers. Every photographer who does lantern-work should own a copy of this book. We can supply copies at 25 cents each, post-paid.

TOILET POWDER

There is no toilet article in the selection of which greater care should be used than a toilet powder.

In these days of imitation and substitution there is so much of inferior goods on the market that it is necessary to be continually on one's guard. Highly-scented toilet powders are so frequent as to be a continual source of danger. Such inferior products will often do a permanent injury to a delicate skin. It is far wiser never to take chances with an unknown article. Be sure, rather, to insist upon a trade-marked product of recognized merit. With toilet powder, as with most other lines of goods, it is safer to trust an old-established house with years of experience and reputation for making only the best. Mennen's Toilet Powder is a trade-marked article, which has for years been recognized by physicians as the best preparation made. The absolute purity of its ingredients and the exercise of the greatest care and skill in its manufacture have given the product of the Mennen Co. a quality of uniform excellence. That is why your physician recommends it.

For your protection, Mennen's face (the trade-mark of the Mennen Co.) is on the cover of every box of the genuine.

NOTES AND NEWS

All first-class dealers carry Mennen's Toilet Powder and will supply it if you insist. It is supplied by the Government for both Army and Navy.

AN EXHIBITION OF MODERN PHOTOGRAPHY

A NOTABLE exhibition of modern photography, arranged by Baron A. de Meyer and Alvin Langdon Coburn, was held at the Galleries of the New English Art Club, 67A, New Bond Street, London, England, from January 28 to February 9. In all, one hundred and twenty-eight prints were hung, representing the work of J. Craig Annan, Alvin Langdon Coburn, F. Holland Day, Robert Demachy, Gertrude Kasebier, A. de Meyer and C. Puyo. Among the twenty prints shown by Mr. Coburn were his well-known portraits of Henry James, George Bernard Shaw and M. Auguste Rodin.

WYOMING VALLEY CAMERA CLUB

ENTRY-BLANKS have been issued for the Sixth Annual Exhibit of the Wyoming Valley Camera Club, Wilkes-Barre, Penn. The jury of selection is to consist of William H. Walker, Arthur W. Dow, and Edward Penfield. Any further information may be had from R. L. Litch, Secretary, 72 North Franklin St., Wilkes-Barre, Penn.

GOLD AND SILVER MEDALS FOR A COMPETITIVE EXHIBITION OF GENRE PICTURES

Offered by the Grit Publishing Co., Williamsport, Penn.

CONDITIONS OF THE CONTEST

To stimulate art photography, the Grit Publishing Company, of Williamsport, Penn., offers a gold and a silver medal for photographic art studies, in a competition open to professional and amateur photographers of the United States and Canada, entries to be made through the Photographers' Association of Pennsylvania and exhibited at the Association's exhibition to be held at Williamsport, Penn., Apr. 23–25, 1907.

Subjects — Choice of subjects shall lie with contestants, the only limitation being that photographs shall be "life" studies; that is, contain as the principal figures one or more men, women or children. It may be suggested, however, that the photographs tell stories easily to be understood, illustrate familiar adages, sayings, phrases, or be emblematical or typical; in other words, what are known as genre pictures. But the treatment must be original in every way, so that the pictures possess artistic individuality, and be in every sense the work of the artist competing.

Size — The minimum dimensions of negatives have been fixed at 8 x 10, smaller negatives operating to the disadvantage of artists who desire strength of detail as well as prominence of principal figures. This limitation excludes enlargements, which are always unsatisfactory from the critical standpoint. The maximum dimensions are at the option of competitors, who are best able to judge of size necessary to produce subjects most effectively.

Printing — Prints may be made on any paper selected by contestants, but every detail should be brought out in the print. The aim should be to show the merits of the work to best advantage.

Mounting — Mounts are wholly optional with contestants, those most effective being especially desirable. While tastes in this direction will be appreciated, mounting, beyond certain essentials, will have no weight in awarding prizes. Photographs may be framed, but without glass.

Entries — Contestants shall enter their photographs, three in each and every entry, by sending written notice on or before Apr. 20, 1907, to the Secretary of the Photographers' Association of Pennsylvania at Williamsport, Penn., to whom their pictures should be sent, express prepaid, such notice giving subjects, size, kind of prints and full address of contestant on blanks previously secured of any officer or member of the Association; or of Grit Publishing Co., Williamsport, Penn. A duplicate notice shall also be sent to Grit Publishing Co., to which must be given first option to purchase, at prices mutually satisfactory, any picture entered in this competition.

Exhibition — Pictures regularly entered will be hung as advantageously as possible by the officers of the Association, in space provided for this contest.

Prizes — The prizes for this contest will be: first, one gold medal, suitably designed and engraved, actual value fifty dollars; second, a silver medal, suitably designed and engraved, actual value twenty-five dollars. These medals will be given by Grit Publishing Co. to the contestants awarded first and second prizes respectively. (If cash is preferred, the equivalents in gold money will be given.)

Awards —Awards will be made by a committee consisting of three judges of the Photographers' Association of Pennsylvania and two named by Grit Publishing Co., all well qualified to pass upon the merits of photographic art studies. Awards in this contest will be made before the opening of the convention. This rule will be strictly enforced.

This contest in photographic art studies has the approval and hearty co-operation of the officers of the Photographers' Association of Pennsylvania, who appreciate the generous spirit of encouragement to photographers given by Grit Publishing Co., and have pledged themselves to do all in their power to make the competition a success.

For further information concerning entries, apply to E. E. Seavy, secretary of the Photographers' Association of Pennsylvania, New Castle, Penn., previous to Apr. 20, 1907.

NOTES AND NEWS

PHOTOGRAPHERS' ASSOCIATION OF AMERICA

THE Executive Committee of the Photographers' Association of America met in executive session at the Beckel Hotel, Dayton, O., Jan. 22, 1907, to arrange for the Twenty-seventh Annual Convention, all officers present. C. J. Van Deventer, President, C. L. Lewis, First Vice-President; A. T. Proctor, Second Vice-President; F. R. Barrows, Treasurer; Frank W. Medlar, Secretary.

REPORT OF SECRETARY

Received on old accounts	$24.50
for floor-space, 1906	1,830.00
for desk-space, 1906	223.00
for advertising, 1906	691.00
for all other privileges, 1906	32.00
	$2,800.50
Paid to F. R. Barrows	2,800.50
Outstanding accounts	52.50

TREASURER'S REPORT

Cash on hand Jan. 1, 1906	$4,818.54
Received from secretary, 1906	2,800.50
Received from memberships and dues	2,463.00
Sale of ladies' pins	47.25
	$10,129.29
Paid out on Vouchers Nos. 583 to 660	5,757.55
Balance on hand Jan. 1, 1907	$4,371.74

President Van Deventer appointed C. L. Lewis and A. T. Proctor to audit accounts of secretary and treasurer, which were found correct, and approved.

It was decided that the Twenty-seventh Annual Convention of the Photographers' Association of America be held August 6, 7, 8 and 9, in the Steele Educational Building, Dayton, O.

From the numerous letters received, the consensus of opinion was not in favor of prizes, which guided the Board in their decision to offer no prizes the coming year. However, these opinions were not averse to recognizing merit in any other way than by giving prizes of intrinsic value.

The unusual interest manifested in the last Salon Exhibit has led the Board to continue this feature at the Dayton Convention, but it is to be understood that the twenty-five pictures so selected are not to be rated, all honors to rest equally on pictures so selected. A Certificate of Award will be given to all receiving Salon Honors.

In compliance with a resolution passed at the Niagara Falls Convention, the Association this year offers $100 in gold to be awarded to the manufacturer or dealer exhibiting the best invention, appliance, formula or process, not heretofore shown at a National Convention; and in addition thereto will give $50 in gold to the *inventor* of such, as the case may be, provided he be other than the party exhibiting same.

It was decided that $200 be placed at the disposal of the Entertainment Committee, to carry out plans maturing for the entertainment of members.

The board ordered that official ballot-slips be used in the election of officers, and that no other than this official ballot be recognized.

RULES AND REGULATIONS

1. Exhibits may be framed or unframed, at the discretion of the exhibitor.

2. Exhibits shall consist of two classes — Salon and Complimentary.

3. The Salon class shall consist of salable portraits. The exhibitor shall be prepared to affirm that his negatives were made for a *patron and prints sold therefrom.*

4. The exhibit shall consist of not less than three nor more than six pictures, only one of which may be selected for Salon Honors.

5. In the Complimentary class, exhibitors are requested that their exhibits shall not exceed twelve prints. No other restrictions.

6. Application for space in the Art Department shall be made to C. L. Lewis, 1217 Madison Ave., Toledo, O., First Vice-President Photographers' Association of America.

7. All exhibits must be sent *prepaid* to C. L. Lewis, First Vice-President Photographers' Association of America, care of Steele Educational Building, Dayton, O., and must reach Dayton, O., on or before Aug. 1, 1907.

Any exhibits not received by August 1, or on which all charges are not *prepaid*, *will not be accepted.*

8. The Association will not be responsible for any loss or damage to pictures while in its charge, but special precaution will be taken to assure the safe return of all exhibits intrusted to its care.

9. *No exhibits shall be removed from the hall until after the close of the Convention.*

Exhibitors who desire to personally take charge of the removal of their exhibits *may do so only* by permission of C. L. Lewis, chairman of the Hanging Committee.

10. Box-covers must be fastened with screws (not nails), and the exhibitor's home address *must be* on the under side of the cover, to insure the safe return of exhibits.

11. To become a member of this Association, one is required to pay to the Treasurer $5.00, $3.00 of this sum is the membership fee, and $2.00 dues for current year.

To retain one's membership the annual dues of $2.00 must be paid yearly.

12. Employees are required to pay only the dues of $2.00 to become members of the Association, but must bear a letter of endorsement from their employer, or be identified by two active members of the Association.

13. Exhibits for the Manufacturers' and Dealers' Department should be shipped care of Frank W. Medlar, Secretary Photographers' Association of America, care Steele Educational Building, Dayton, O.

All charges must be prepaid, and all exhibits *must be* in place on the morning of Aug. 6, 1907.

14. No manufacturer or dealer, or their representative, will be permitted to transact business on the floors of the Convention Hall unless *he* or *they* rent floor-space, wall-space, desk room or convention privileges.

15. Manufacturers and dealers, in renting desk-space, are to understand that this constitutes their only privileges, and whenever extra tables or surrounding floor-space are used for the display of their goods they will be required to pay for the floor instead of desk-space.

16. All manufacturers, dealers or their representatives attending the Convention will be required to pay the Associate Membership fee of $2.00.

COMMITTEES

Hotel and Accommodations — A. T. Proctor, Frank W. Medlar.

Entertainment — A. L. Bowersox, Chairman; J. M. Appleton, C. L. Lewis, J. Zweifel, F. R. Barrows, A. Grossman.

Decoration and Hall — C. L. Lewis, A. T. Proctor, Frank W. Medlar.

Ladies' Entertainment — Mrs. A. L. Bowersox, Mrs. C. J. Van Deventer, Mrs. J. Zweifel, Mrs. F. R. Barrows, Mrs. C. L. Lewis.

Membership Buttons — F. R. Barrows, A. T. Proctor.

Press — Frank W. Medlar, C. L. Lewis, A. T. Proctor.

Transportation — F. R. Barrows, C. L. Lewis, A. T. Proctor.

Printing and Advertising — F. R. Barrows, Frank W. Medlar, C. L. Lewis.

Association Review — F. R. Barrows, A. T. Proctor, C. L. Lewis.

Information — F. R. Barrows, Frank W. Medlar.

Local Press — A. L. Bowersox.

FRANK W. MEDLAR, *Secretary.*

NECROLOGY

THE death is recorded of Mr. R. Maynard, of Victoria, B. C., aged seventy-five years, one of the oldest photographers on the Pacific Coast. His studio, as well as his extensive photographic supply business, will be carried on by his son, Albert H. Maynard.

TWO FOR ONE

THE success of our well-known monograph, *The Practical Photographer*, each issue devoted to one photographic subject, has been remarkable. Several of the issues, such as "Developing and Developers" and "Photographic Retouching," were exhausted long ago. As we frequently have demands for these two issues from persons wishing to complete the set — the entire series comprising twenty books — we make the following offer:

TWO FOR ONE

which means that, in exchange for *one copy* of "Developing and Developers" or "Photographic Retouching," in good condition and sent to us post-paid, accompanied with five cents in stamps (postage), we will send, post-paid, *two* copies of *The Practical Photographer* covering different subjects, except Nos. 1 and 2 — "Trimming, Mounting and Framing" and "Printing on Bromide and Gaslight Papers," of which we have only a limited number of copies.

ONE FOR ONE

The terms of this exchange are as follows: On receipt of a well-preserved copy of the January issue of THE PHOTO-ERA, 1906, we will send, post-paid, one copy of *The Practical Photographer*. Any one of the twenty subjects may be selected, except Nos. 1, 2, 3 and 9.

DR. KARL MUCK

DR. MUCK, whose excellent portrait, made for us by J. H. Garo, appears in this issue of THE PHOTO-ERA, is the prominent musical figure *par excellence* in this country at the present time. The Boston Symphony Orchestra was extremely fortunate to secure so eminent and successful a musician as its conductor, when Wilhelm Gericke relinquished this honorable position last year. It is largely due to the friendly feeling for the United States that Emperor William permitted Dr. Muck, bound by contract to the Royal Opera House at Berlin, one year's leave of absence to enable him to accept, even for so short a term, the position of conductor of the most superb body of instrumentalists in the world — the Boston Symphony Orchestra. Dr. Muck has for a number of years been the chief conductor of the famous Berlin Opera House, enjoying also a high reputation as interpreter of great orchestral works. As leader of Boston's famous band, he is not only fulfilling all that has been predicted of him, but proving himself quite the equal of such scholarly and celebrated musical interpreters as Mottl, Weingartner, Steinbach, Schuch and Colonne, with whose abilities American audiences are familiar.

The question that is already agitating musical Boston, and also New York, Philadelphia and Chicago, where Dr. Muck has greatly endeared himself is, Can he be retained? Can the German Emperor, who is master of this musical situation, be persuaded to yield him to America, which is anxious to retain him? We hope that this interesting problem will not be the cause of international complications. We have already a nut to crack in solving the Japanese school-question, and want no more at present.

ROYAL VELOX PAPER

This is a new product of the Eastman Kodak Company, a heavy, gelatine-coated stock, with a semi-rough surface and a beautiful grain, that lends itself readily to broad, artistic effects. We have just seen some prints made on this new gaslight paper, both in black and sepia. A careful examination shows that, while beautiful and mellow, the sepia prints — which are redeveloped with Velox Redeveloper — retain all the detail, from the high-lights down to the deepest shadows, that are visible in the black-and-white prints. All the tonal gradations are well marked. Practical workers who have a predilection for sepia tones know the difficulty of preserving detail and tonal gradations in this popular tint. The new Royal Velox presents no troubles of this kind.

A NEW TELEPHOTO-LENS

The firm of Carl Zeiss, of Jena, Germany, some time ago constructed a rapid objective for distance work, that can be used in place of the regular lens, thus obviating a special attachment. Dr. Rudolph and Dr. Wandersleb, who work out the optical formulæ for the Carl Zeiss Optical Works, have lately calculated a new construction for a telephoto-lens, especially adapted to hand-camera work. The peculiarity of this new lens is its great illumination and consequent working-rapidity, and it is calculated to appeal very strongly to persons who wish to directly photograph animals in the open, and do work of a similar nature. It is especially adapted to photographing objects from great heights, such as from balloons. The instrument has a relative opening of F/14 and a focal length of about eighteen inches. The bellows needs to be extended only about six inches. By merely unscrewing the regular lens of a camera, this new telephoto-lens may be used directly in its place, providing the flanges are interchangeable. The focusing is effected by means of a scale in the usual way. Highly successful work has already been achieved with this new lens, and it is expected to be in great demand among photographic specialists.

AN INTERESTING EXHIBITION

The New England Forest, Fish and Game Association holds its second annual exhibition at the Mechanics Building, Boston, Mass., Mar. 30 to Apr. 13, 1907. So many of our workers are interested in fishing and hunting with the camera that this exhibition will undoubtedly appeal to them very strongly, especially as the Committee of Arrangements has promised to make this exhibition the most complete and unique in the history of the Association. The displays will be divided into these groups: Group A will be devoted to Forestry; Group B, to Food and Game Fishes; Group C, to Animals; Group D, to Game, Song and Insectiverous Birds; Group E, Trade Exhibits; Group F, Art Associated with Forestry, Fish and Game; Group G, Loan Exhibits. Group F will interest photographers particularly on account of the numerous oil-paintings, water-colors and photographs which will comprise this department. No doubt a visit to this exhibition will inspire many of our workers, given to photography in forest, field and stream, with new ideas. We therefore suggest that those who can conveniently do so visit the above-named exhibition, early in April.

PRINTS FOR REPRODUCTION

It frequently happens that a photographic print does not receive full justice at the hands of the half-tone engraver, simply because it does not conform to the requirements of the half-tone process. In every case, whenever possible, workers are requested to send us, together with a sepia original, if that be the one submitted, another printed in black and white, with all the gradations that are desired to be retained. The print that will yield all the desirable qualities of the negative, and is preferred to all others by the half-tone engraver, is one made on some good glossy paper capable of giving full detail and softness, without undue contrasts. Even if such a print deviates slightly from pure black and white, approaching a gray or slightly brown color, it does not seriously matter; but it appears that the middle tones and details in the shadows photograph much better when the tone of sepia prints is uniform. Besides, they require much less exposure in the process, a feature that commends itself very highly to the photo-engraver.

In the case of a print in sepia the reproduction of the middle tones runs towards the shadows, which do not retain their tonal values as they appear to the eye. To overcome this defect — for it is a defect only in the eyes of the half-tone engraver — the latter is to work for a flat reproduction and through the medium of burnishing try to restore, in a measure, the lost gradations. Almost any one is lost to the beauties of a fine sepia print, and the requirements of a print needed for reproduction rarely occur to him. In some cases this means for us to obtain prints other than strong sepia impressions, and it is almost impossible to do them justice, however beautiful they appear to the eye. A case in point is the charming prize photograph, "Revery," by Brock & Koonce, which appeared in these pages. Its strong sepia color did not favorably impress the half-tone engraver, one of the most skilful in the business. He made repeated trials, and the best he could do was the result which we were obliged to use in the last issue. It by no means does justice to the superb original, and we regret this exceedingly, as we very much desired our readers to obtain a favorable impression of this portrait.

PHOTO-ERA THE AMERICAN JOURNAL OF PHOTOGRAPHY

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Wilfred A. French, Ph.D., *Editor* Phil M. Riley, *Associate Editor*

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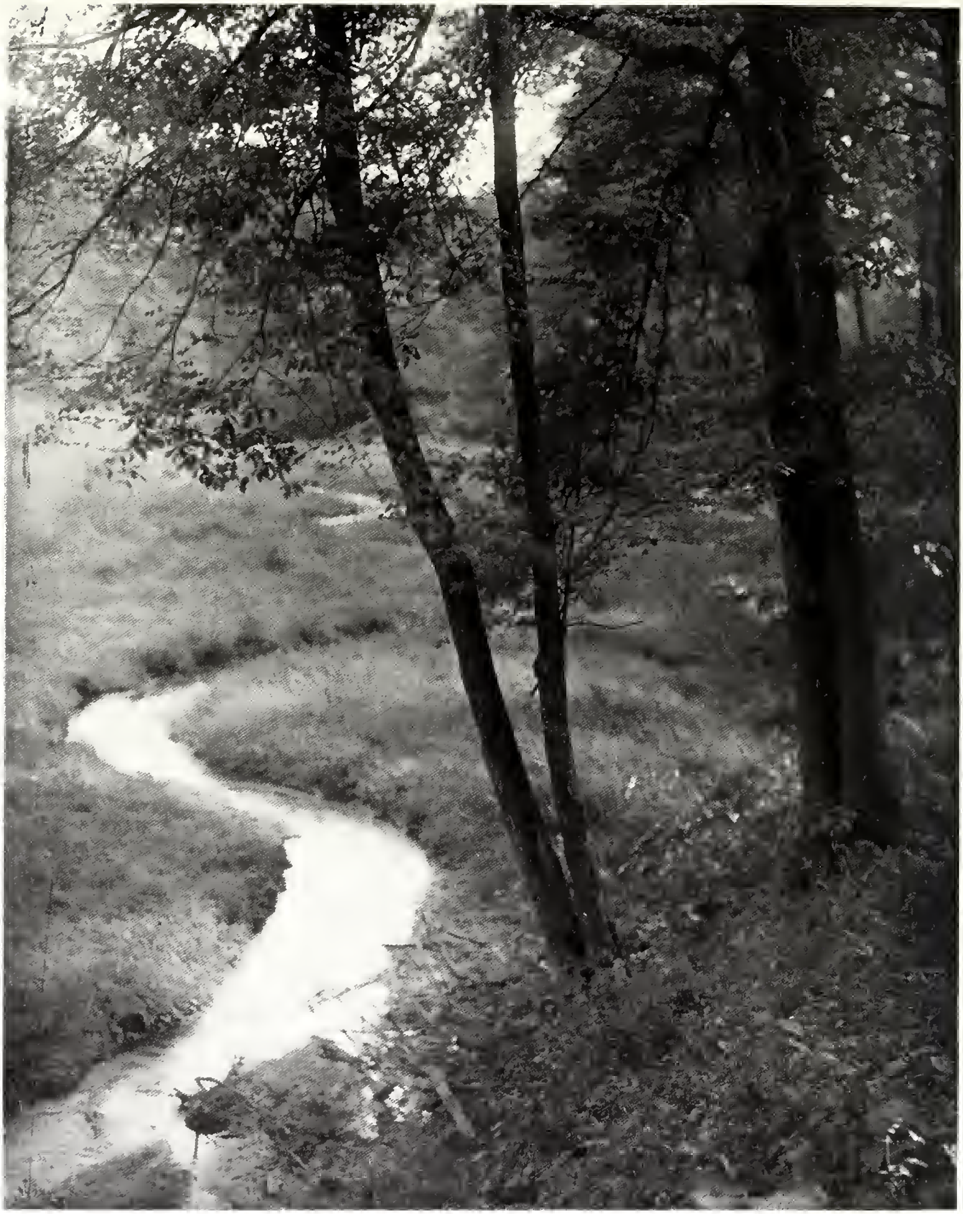


WILLIAM T. KNOX
WHERE THE BROOK WINDS THROUGH THE MEADOW
THIRD AMERICAN PHOTOGRAPHIC SALON

PHOTO-ERA

The American Journal of Photography

VOL. XVIII APRIL, 1907 NO. 4

THE THIRD AMERICAN PHOTOGRAPHIC SALON

WILLIAM HOWE DOWNES

Art Editor of the Boston Transcript

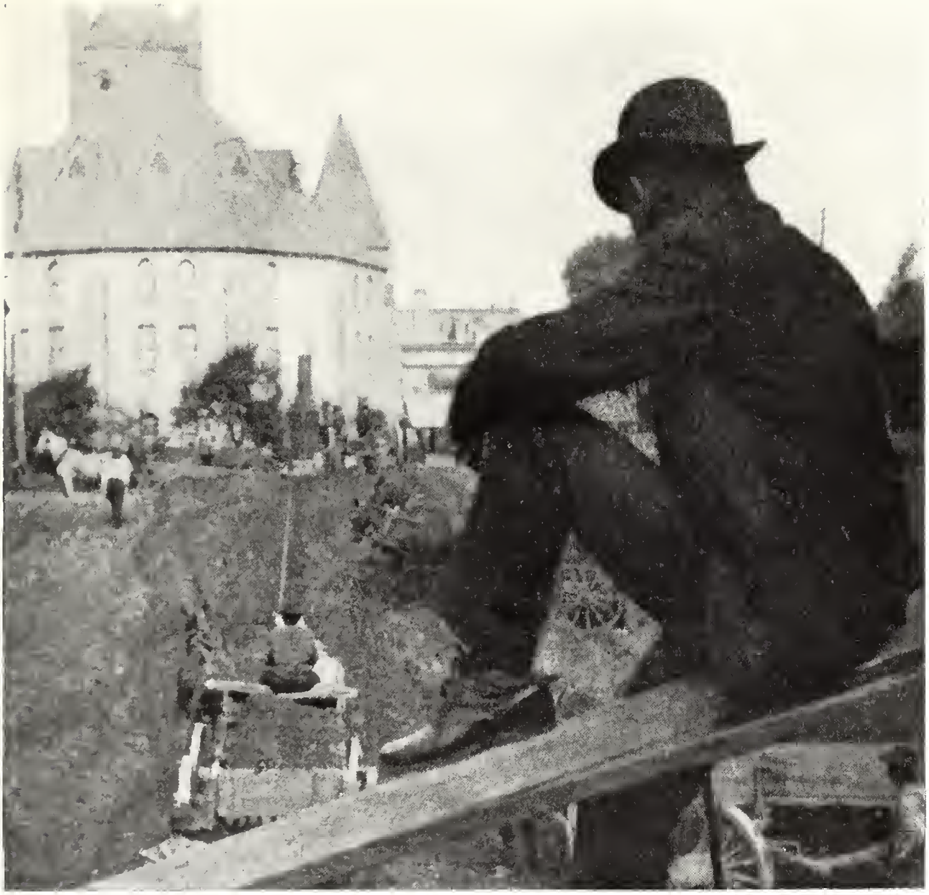
THE Third American Photographic Salon, which, at this writing, is still on its circuit of the chief cities, is held under the auspices of the American Federation of Photographic Societies, comprising twelve organizations in as many different places. From the 275 pictures in this exhibition the editor of PHOTO-ERA has chosen fourteen representative specimens of native work for reproduction here, a group of photographs which shows a pleasant variety of landscape and figure motives, and which may be said to represent fairly the modern tendencies of artistic pictorial photography. One of these tendencies is to create illustrations of life — not anecdotic subjects, with a beginning, middle and end of the story, involving too much obvious machinery, but illustrations in the sense that the works of the Central Italian painters of the Renaissance are illustrative rather than decorative, as has been ingeniously set forth by Mr. Berenson, who, however, speaks with some unwarranted scorn of "mere" illustrators. I fancy that there is a future for photographic illustration, but I do not mean the kind of illustration that is hitched up with letter-press as a running-mate. What I have in mind is the illustrating, not of a story, not of any written text, but of the "real thing," which is life itself. But let us adduce some concrete examples.

What makes Mr. Brookins's "Transport of Man" so interesting as a picture? It is a scene which is sordid enough, common and familiar enough, and in actuality would be viewed inattentively, if not impatiently. I am not quite certain whether the artist is to be credited with what is good in the composition of it, for, of course, we all know that good compositions will sometimes happen in the most casual manner; but it is certain that he knew he had got a good composition, once the plate was developed. The contrasts of light and dark spaces in this picture are distinctly pictorial; the steam and smoke, the traces of snow on the ground, the shining rails, all contribute to the effect; and, as in many paintings (a notable example being Turner's famous "Rain, Steam and Speed, Great Western Railway," in the National Gallery), objects in themselves of no beauty of form, whatever, are so brought into the scheme of light and shade, as to assume an undeniable pictorial value. As an illustration, then, we have in

WILLIAM H. PHILLIPS IN TURKISH WATERS

this plate a record of how a Chicago railroad-yard looks — a network of tracks, long strings of cars, a puffing locomotive and a jumble of buildings in the background — truly a most unpromising subject, it would seem, yet, as is evident, capable of being made into a picture of artistic merit, and so, finally, another proof added to the already abundant testimony of every day's experience that the motive is of little consequence compared with its treatment, and that all is grist that comes to the art-mill.

Somewhat like Mr. Brookins's picture in spirit is Mr. Will D. Brodhun's "Unofficial Inspector," with the sitting figure of an idle man perched on a high scaffolding in the foreground, watching the work of the teamsters below him. It seems to tell a story, but it does so in such an ambiguous manner as to leave



WILL D. BRODHUN AN UNOFFICIAL INSPECTOR
THIRD AMERICAN PHOTOGRAPHIC SALON

the purport of it largely to the imagination of the observer, a peculiarity which, though tantalizing, has its artistic parallel in literary fiction, which is usually deemed superior to the opposite extreme of excessive definiteness. One can see readily that there are minor points in which Mr. Brodhun's composition might be improved; but I think the vagueness of his intention, so far as the story goes, may be set down as a merit. That there may or may not be a story is an open question; it is possible to read a story into the picture, but then we must not forget the Needy Knife-grinder, who dashes our romance to the ground with his: "Story? God bless you, I 've none to tell, sir."

Dr. Albert R. Benedict's picture of "The Man on the Box" leaves us in no doubt; his hero is not dreaming of anything more romantic than the day's wage; in fact, a cabby seems almost more like a piece of mechanism than a human individual. But we must compliment the artist on the extremely picturesque silhouette of this picture, in which the dark masses take their places so well against the light, and in which the relative scale of all the objects is so well maintained.

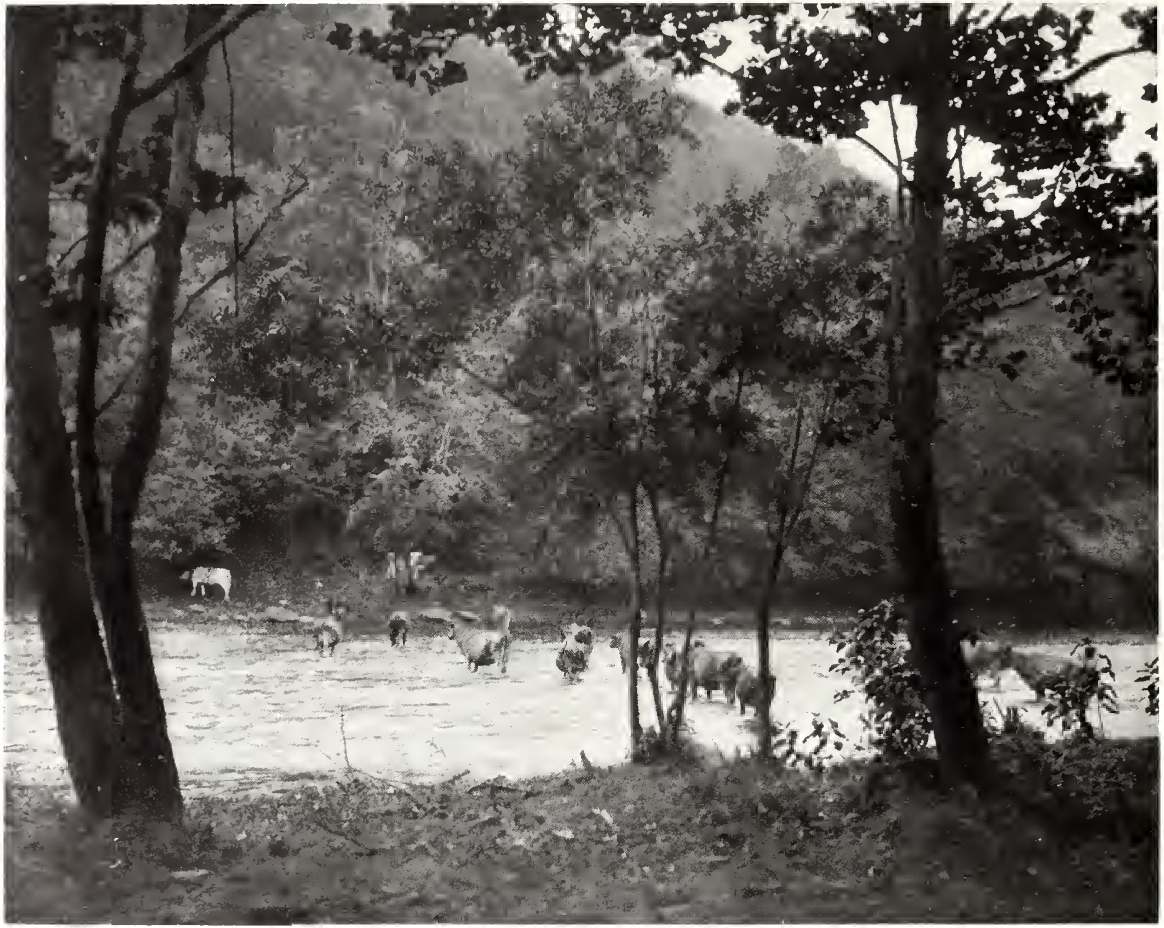
Over-obviousness of intention is exemplified in the picture by Katherine Bingham, entitled "Responsibility." This is a type of the illustration which deliberately and definitely sets out to impress its sentiment upon us, and oh, what a threadbare, hackneyed, stale and thousandth-told tale it tells! I cannot say it is badly done in this instance; as a photograph it must take high rank among the best; but I feel that it ought to be accompanied by low, tremulous music on the violins, by a hollow bass voice saying, "My che-y-l-d, where is my che-y-l-d?" and the footlights should be turned down, while even the newsboys in the gallery cease eating peanuts to indulge their emotion.

G. C. Elmberger's "The Gravel-gatherers" celebrates the artistical aspects of labor in the open; the good points about the photograph are numerous. It is a first-rate composition, not at all usual; the atmosphere is delightful, the gray tone of the print very handsome; I could hardly suggest any improvement; even the men's suspenders seem to justify their existence. The broken reflections on the surface of the water are almost worthy of Winslow Homer. George Buttler's "Waiting for a Load" is another labor-motive, simply made up, with a good suggestion of the textures of the loosely-strewn hay, and an attractive veil of gray atmosphere softening the distance.

Lee H. Keller's "The Still Night" shows a bit of a snow-covered New York square or park by the spectral light of the arc-lamps, and brings out in an interesting way the curious pattern of cast shadows of tree stems and boughs upon the trodden surface of the snow. A remarkable snowy landscape is John Chislett's "Snow Shadows." Of all the wonderful photographs of this class of subjects, this is the most wonderful. The delicacy and beauty of the gradations in the shadows and texture of the snow are truly extraordinary. Again, I must commend the "Winter Stream," by R. E. Weeks, a photograph which is to be set down as poetical in its exquisite lines, its suggestions of nature's whimsical loveliness.

The trees and the stream in William T. Knox's "Where the Brook Winds Through the Meadow" are sylvan and enticing. To say that this landscape makes us long to be in such a spot is praise enough. "The Dawn of Day," by William H. Zerbe, is a landscape in which a herd of cows fording a creek play an important part. It is an agreeable pastoral subject. "In Turkish Waters," by William H. Phillips, is a marine piece, in which the details are slurred and the masses make the picture. Would not a little clearer definition have made this more interesting?

"A Laborer," by W. H. Evans, suffers slightly from the self-consciousness of the model. The lines are a bit top-heavy where the figure and its burden come against the sky. Louis Fleckenstein's "A Maid of the Frontier" is a charming girl's head, with flowing hair framing features of extreme prettiness; the eyes and mouth especially are fine. Dante Gabriel Rossetti's models never had such pretty lips as this girl's.



WILLIAM H. ZERBE THE DAWN OF DAY

THIRD AMERICAN PHOTOGRAPHIC SALON

THE GUM-BICHROMATE PROCESS

B. F. LANGLAND

A Paper Read before the Wisconsin Camera Club

WHEN the average amateur sees the above title over an article in his photographic magazine he usually passes it by without further attention, thinking it some of that terribly scientific "stuff" that no one can understand, except perhaps a few of those fellows who have nothing else to do than to study abstruse chemical problems. But that is where he is mistaken; if he would look into the process a little, he would find that instead of being an extremely difficult and expensive one, as many are apt to believe, it is really very simple and remarkably cheap when compared with many of the other printing-methods. However, much that has been published concerning it would lead the reader to think it a very complicated and expensive method of making prints.

The object of my demonstration to-night is to show how mistaken this impression is, and to prove what a simple printing-method the gum-bichromate process really is. I shall not go into its history — except to say that it is one of the oldest printing-methods known, dating back to 1855 — nor enter into an elaborate explanation of the chemistry of the process, nor expatiate on its various modifications, as almost every worker in gum has some pet variation which he thinks produces better results than the other fellows' ways.

The process is founded on the fact that gum arabic, when mixed with bichromate of potassium and exposed to light, becomes insoluble in water. So, if a sheet of paper is coated with a mixture of gum arabic, bichromate of potassium and some suitable pigment, and is exposed to light under a negative, the coating becomes more or less insoluble in proportion to the amount of light that has acted upon it. Then if the exposed paper is placed in a tray of water, the coating, protected from the action of light by the denser proportions of the negative, will dissolve away, leaving on the paper that which has been made insoluble by the action of light, thus giving a positive print in color. By this process prints in any color, or in two or more colors, can be made easily, and it has the great advantage of allowing the worker greater scope for modifications, changes and for the display of individuality than any of the other printing-methods. Prints by this medium are as permanent as anything made on paper can be.

The essential chemicals needed for gum printing are few and cheap; viz., gum arabic, bichromate of potassium and the pigments for coloring. Gum arabic costs seventy-five cents per pound, which would last a lifetime, while an ounce will answer to start with. Bichromate of potassium costs forty cents per ounce, an ample quantity for a beginner. The pigments, or colors, can be very cheap or quite expensive, but, fortunately, the cheap colors make just as good prints as the expensive ones. A large package of lampblack can be obtained for five cents, and Venetian red, burnt umber, yellows, blues and many other colors, such as the house-painters use, can be had for a few cents per pound.

Any paper that will stand soaking in water can be used, and as far as my experience goes, sizing it is not necessary. There is a cheap grade of drawing-paper that answers very well. I obtained a package of a hundred sheets, 8 x 10 inches in size, for twenty cents. Many of my best prints have been made on this paper.

The brush I use for coating the paper is an ordinary bristle brush an inch and one-half in width. I have used it for several years, and, if my recollection is correct, it cost me ten cents.

Almost any kind of a cup or saucer may be used for mixing the necessary solutions, but a small mortar and pestle will be found very convenient. A few thumb-tacks or pins, a piece of pine board to pin the paper on for coating, a tray that will stand hot water and a small round camel's-hair brush for local development represent the sum total of what is essential for the making of a gum print. Of course, there are many things that are convenient to have at hand when working in gum. It can be made an expensive process, if one chooses to make it so, but, as far as I am able to judge, just as good prints can be made with the cheapest outfit as can be made with the most expensive. It is the man who uses the outfit, and not the outfit, that makes the pictures.

When the desire to make gum prints seizes me, I take a quantity of gum arabic, see that it is clean, place it in a small wide-mouthed bottle, put in cold water — just enough to a little more than cover the gum — then put it away for a day or two (gum arabic dissolves slowly). After the gum is dissolved, I sometimes strain it through a piece of muslin, although this is not strictly necessary. This gum solution will keep fairly well for a month or more.

For the bichromate solution I take a few of the crystals and place them in a bottle with a few ounces of water. If the crystals all dissolve, I put in enough more so that a few will remain undissolved; then I am sure I have a saturated solution. This solution keeps very well if placed in dark-colored bottles, or if kept in a dark place.

When the gum has dissolved, I pour a little of it into the mortar, and then put in as much of the pigment I am going to use as I think will give me the darkest tint wanted in the finished print, for in this process one begins with the darkest shadows and washes down to the highest lights. I grind up the gum and pigment thoroughly, then try the color on a piece of waste paper, and, if too light, add more pigment, and if too dark, add more gum. Finally, I add as much of the bichromate solution as is necessary to thin down the gum and pigment to that state of fluidity which is required for making a successful coating. It should be about the consistency of maple syrup. A few trials will teach one more about this than any amount of description. Most writers on gum printing give the impression that coating the paper is a very difficult matter, but it will not be found so if the solution is of the right consistency.

To coat the paper, pin it to the coating-board, stretching it as smoothly as possible; fill the brush fairly full of the coating-solution — better a little too much than too little — and as rapidly as possible. Then, beginning at the top, brush lightly but firmly from left to right, having each stroke slightly overlap

ROBERT E. WEEKS A WINTER STREAM

the previous one, until the bottom is reached; finally, repeat the operation, brushing from top to bottom, more and more lightly, as the coating dries rapidly. The coating-process should be completed within a minute or two. Then hang the paper up in the dark to dry. This process will take from fifteen to thirty minutes, when the paper can be put away in a book under pressure until wanted for printing.

The coating can be done in full lamplight or gaslight, as the coating-solution is not sensitive to light while wet, and not at all to gaslight, as far as I have observed.

Paper coated in this matter will keep in good condition for a month or six weeks if kept free from moisture. In fact, I believe that paper kept for a week or so after coating works better than that which has been freshly sensitized.

W. H. EVANS A LABORER

Printing the paper, when the lighter colored pigments are used, can be judged about as blue prints or platinum prints are judged. When the shadow portions show quite distinctly, the printing has been sufficient. But with the darker colors, no image is visible until after development. Gum-bichromate paper is of about the same sensitiveness as Solio or similar printing-out papers, and if a piece of Solio is printed out under the same negative, or one of like density, to about the depth usually printed for proofs on these papers, the gum paper exposed for the same length of time will be properly printed.

Development should ordinarily take place immediately after printing, especially if the print has been fully exposed, as the chemical action set up by the exposure to light continues, and the print, if kept for any length of time, will become insoluble. This continuation of the chemical action has some advantages, as, if you are pressed for time during daylight, you can give a short exposure in the morning, and, depending upon the continuation of the chemical action to complete exposure, develop at night.

The developing is done in water of various temperatures. A print properly exposed, placed face down in a tray of cold water, will develop without further attention in from five to thirty minutes. A print which it is desired to change, modify or develop by the brush, should have a longer exposure than one which is to develop by itself, as in that way you have a greater opportunity to work on the print. Since the power to modify the prints in development is one of the principal advantages of the gum process, care should be taken rather to overexpose than otherwise.

After the prints have been in the water for two or three minutes, turn them face up, and, if the portions of the print protected from light by the edges of the printing-frame have begun to dissolve away, you may be confident that the coating is in good condition. Then if you are going to develop by the brush method, leave the print in the tray, face up, under water. Great care should be used in making the first touches with the brush, for, if the print should happen to be underexposed, a touch might spoil it. If anything like the proper exposure has been given, the brush may be used very freely while the print is under water. If the print is too slow in coming up, raise the temperature by adding warm water. In extreme cases boiling water may have to be used. When the print has been developed to your satisfaction, remove it from the water and place it, face up, on some inclined surface to drain and dry.

Fixing is unnecessary, as the bichromate that remains in the print will do no harm and the slight yellow stain is agreeable rather than otherwise. But if for any reason you should wish to remove the remaining bichromate, it may be done by placing the print, for a few minutes, in a five per cent alum or hypo bath.

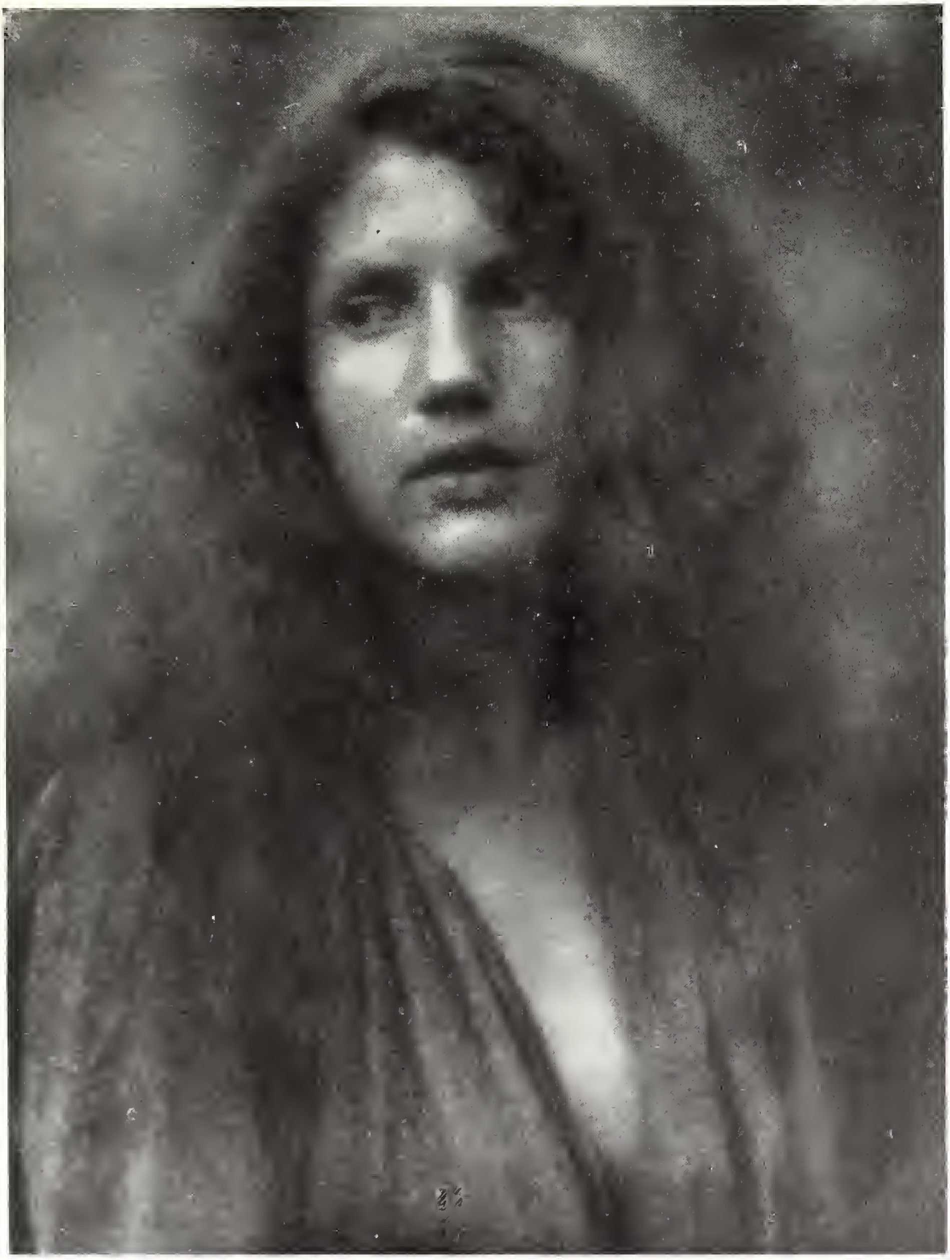
◆

BROMIDE PRINTS BY CONTACT

T. H. FERGUSON

EVERY photographer who uses bromide paper knows that the weaker the negative the weaker should be the light in which it is printed, in order to increase the contrast. The best way to weaken the light is to increase the distance from its source. Two feet and six feet will be found convenient distances, and there is little or no advantage to be gained from having more than these two points for exposing. With the same negative, exposures made at a distance of six feet will require nine times as long as those made at two feet. This is the only variation that should ever be made, alterations in the composition of the developer only leading to the production of feeble, imperfectly-developed prints.

A great deal can often be effected, however, by local treatment during exposure. For this three things are wanted — a sheet of glass, some black paper,



LOUIS FLECKENSTEIN
A MAID OF THE FRONTIER
THIRD AMERICAN PHOTOGRAPHIC SALON

and some cardboard. In most cases the cardboard alone will do all that is required. After giving to the whole of the plate the exposure necessary for the parts of the negative that need the least, they may be screened by holding the cardboard in front of them while parts which want further exposure receive it. The cardboard need not be held in contact with the negative — in fact, it is better not to do so — but should be kept moving slightly. If it is a patch in the middle of the negative that we wish to screen, a piece of black paper a little smaller than the part to be screened must be cut out, attached to the middle of the glass plate, and this held in front of the negative. It is well to hold cardboard or glass so that the actual shadow can be seen on the negative, or the shading may turn out to have been carried too far or not far enough.

It is not always realized how very much can be done in this way without a sign of it showing. As an example I may mention that I have a negative of a large hall with a dark roof, and lit by sunshine streaming in from windows all down one side of it. I can give twelve seconds to the timbered roof, and then with a piece of cardboard with a straight edge held diagonally so as to expose the floor and the windows mostly, this part can have *four minutes* more, moving the cardboard so as to avoid a hard line. The final print gives no indication of any local treatment, and conveys a good idea of the interior.

The developer which seems to be the best for bromide paper — and I have yet to find a make for which it is unsuited — is amidol. I started by using the formula given below, and except that I prefer it more dilute, as being more economical, there seems no need for a change . It is made up of:

Amidol	25	grains
Sodium sulphite crystals	330	“
Potassium bromide (ten per cent solution)	5	“
Water	20	ounces

By crushing the sulphite it dissolves almost directly in the water, and when it is dissolved, the amidol and bromide are added. After allowing a minute or two for the amidol to dissolve, the liquid is ready.

I am convinced that where so many workers in bromide go astray is that they import into the development of bromide prints notions gathered from the development of negatives. This will not do. We have got to put aside all ideas of modifying the developer and of stopping development sooner or later, since these all interfere with the color and vigor of the result if they are put into practice. The print may be soaked in water till quite limp, and should then have the developer poured over it. I do not care to use the above developer for more than two prints, so as little as is needed to cover the print is taken, and, after development, is not poured back to the general bulk, but put into a measure for use with one more print, and is then thrown away. By wetting the print first, an ounce will be found ample for a half-plate print, so the developer is not a dear one. The great thing in developing is to carry it right on until the development seems to stop. It does not quite stop, but it slows down so much that a minute more or less in the developer at that stage will make no difference. This is a sign that the development is complete, and the print may be fixed. If the print is a poor one the exposure must be increased or decreased, as it may suggest. The hypo seems to darken the dark parts of the print a little, but not very much.

In the previous paragraph I have pointed out that we cannot modify the developer and stop development before it is fully accomplished, since either course will interfere with the color or contrast of the print. In doing so I am supposing that we wish to make bright, clear, strong prints — the sort that the beginner, at least, wishes to make. Of course, if delicate gray prints or other modifications are wanted, we can get them by making suitable alterations, diluting the developer, over-exposing and stopping development at an early stage, or by changing the composition of the developer. But this would form material for an article in itself.

An acid fixing-bath I always use, adding to each pint of the hypo solution (four ounces to the pint) an ounce of the stock acid solution made up of

Sodium sulphite	2	ounces
Water	10	"

When dissolved, two drams of strong sulphuric acid are added. Prints should be left in this at least ten minutes.

The defects which have at any time come my way have been only of two kinds — poor color and brown stains. The former is caused by an excess of bromide in the developer, either from a mistake in making it up in the first instance or from using the developer too often, since developing a print increases the bromide in the developer. The latter have always occurred when the prints were left too long undisturbed in the hypo. I, therefore, prefer to move them about in it from time to time, not giving them less than ten minutes nor more than twenty.

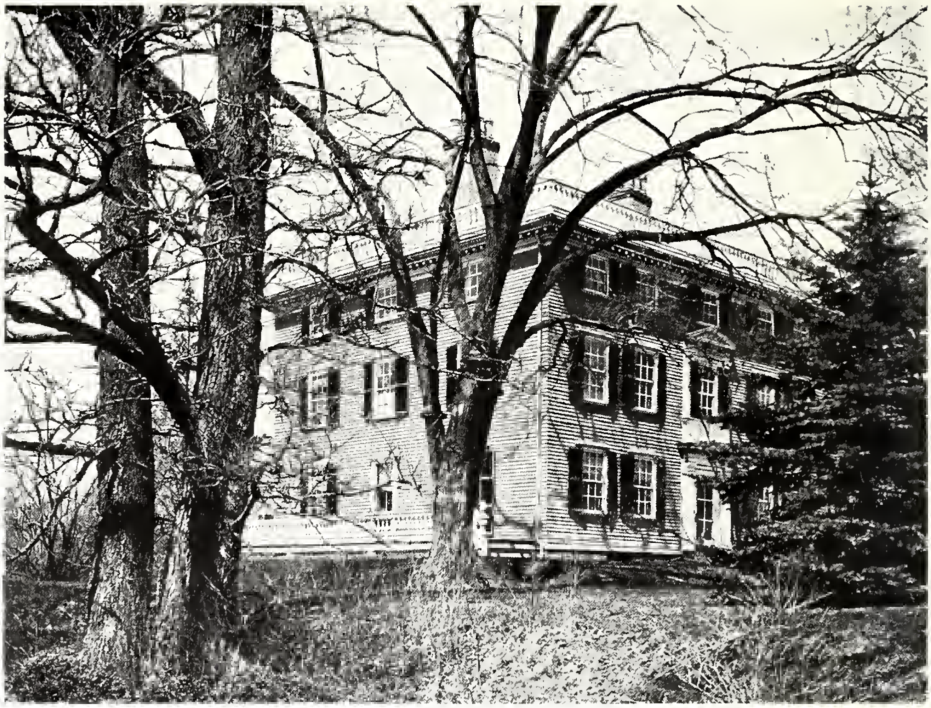
The only cause of poor prints not already dealt with would be unsuitable negatives. The negative must be right to start with; not only must it be sharp, bright and clean, but it must have the right amount of contrast for the bromide process if it is to be used for it; and unless it does so, the prints, whatever we may do, will be poor.—*Photography, London.*

ELMWOOD

W. PRENTISS PARKER

(*Prize Winner — Literary Competition*)

ELMWOOD is one of the most beautiful historical spots in all New England, and the fact that it still retains its old-time glory is most wonderful, considering the era of progress through which we have been passing the last ten years. We have still with us historical houses where the changes have been few, even to the surroundings, such as the Craigie-Longfellow House; a few houses in Lexington and Concord; the Fairbanks House in Dedham; the Vassal-Adams House in Quincy; the Rebecca Nourse



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House in Danvers, and several more. The majority of the colonial, historical houses have seen sad changes or entire removal. How much better it is to have one of our old landmarks taken down than to turn it over to the real-estate speculator, who, having no idea of the historical, remodels it to suit the needs of a modern tenement-house. We should be very grateful to the people who have saved for all time this beautiful home of the Lowells. It certainly is a great pleasure to unexpectedly behold an old colonial estate retaining so much of its former appearance as this has. It embodies more of the idea of the country-house of a provincial magnate than is easily supplied to the limited horizons of our old acquaintances. The splendid grove of pines is a token of the primitive forest; the noble elms seem to bend their heads as silent messengers of protection.

It has been stated that the house was built by Colonel Thomas Oliver about 1760, but as the estate was only leased by him until about 1770, when he acquired the title by purchase of the heirs of John Stratton, of Watertown, we do not give full credence to the assertion. The house is of wood, of three stories, and in itself without distinctive marks of any style of architecture. The interior woodwork is plain, and destitute of the elaborate carvings seen in the Longfellow or Apthorp houses. Thomas Oliver, the last of the Lieutenant-Governors, dwelt here during the Revolution. The house was used as a hospital after the battle of Bunker Hill, the opposite field being used as the burying-ground for such as died here. The next occupant was Elbridge Gerry, and he will doubtless be remembered for the curious political manipulation of the map of old Massachusetts, thus being the means of introducing the word "Gerrymander" into our political vocabulary. Upon the death of Mrs. Gerry the property passed into the possession of the Reverend Charles Lowell, father of the poet. The new owner greatly improved and beautified the estate, giving it the name of "Elmwood." Dr. Lowell was pastor of the West Church in Boston for more than half a century.

The following story is told of West Church: "As a couple of Jack Tars were passing the meeting-house on a Sunday, observing the remains of the steeple which was cut down by the British troops in 1775, 'Stop, Jack,' says one of them. 'D—n my eyes, but this ship is in distress; she has struck her topmast! Let 's go aboard and lend her a hand!' Upon which they went in; but finding no assistance was required of them, they sat down until the service ended. On going out one was heard to say, 'Faith, the ship we thought in distress has the ablest pilot aboard that we have seen for many a day!'"

James Russell Lowell was born Feb. 22, 1819, was graduated at Harvard College in 1838 and entered the Harvard Law School, where he remained two years. He was admitted to the bar in 1841, but he soon gave up the profession, that he might devote himself wholly to literature. In the summer of 1851 he visited Europe, and in the winter of 1854–1855 he delivered in Boston a course of lectures on "The British Poets." On the establishment of *The Atlantic Monthly*, in 1857, Professor Lowell became the editor, a position he held about five years.

While Lowell is distinguished by the great range and versatility of his powers, the poems written on nature, the birds and all animal life breathe such a beautiful sense of love for those things that he seems almost the most human of poets. To the dandelion a verse runs:

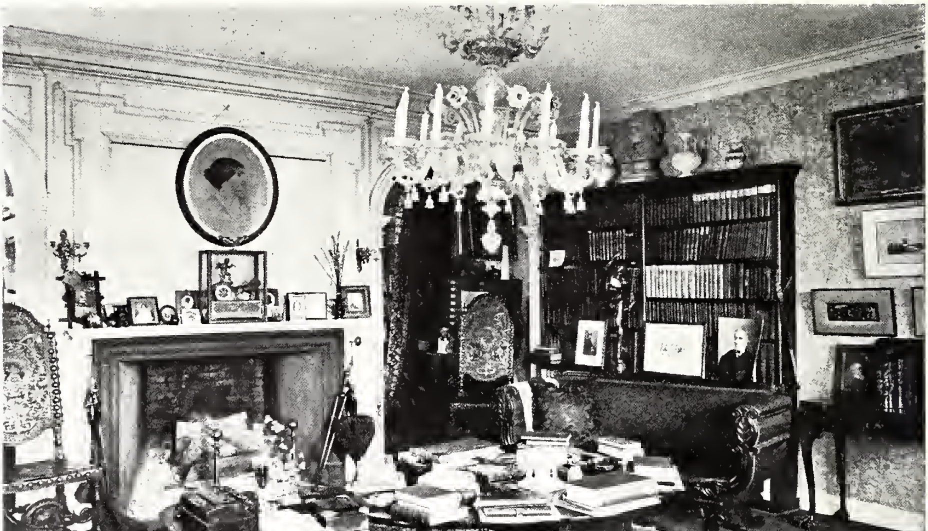
"My childhood's earliest thoughts are linked with thee;
The sight of thee calls back the robins' song,
Who, from the dark old tree
Beside the door, sang clearly all day long;
And I, secure in childish piety,
Listened as if I heard an angel sing
With news from Heaven, which he did bring
Fresh every day to my untainted ears,
When birds and flowers and I were happy pairs."

His great love for his home and all that a real home brought him is told in these lines:

"Ah, dear old homestead! Count it to thy fame
That thither many times the Painter came;
One elm yet bears his name, a feathery tree and tall"——

The picture of the study of Professor Lowell shows the true American type of a man whose home is his castle. Surrounding him here are pictures and souvenirs of his family and friends, as dear to him as their memories. He was especially fond of an old clock by Richard Lowle, of Newbury, Mass., dated 1654, and the old family furniture. In 1877 he was appointed United States Minister to Spain; in 1879, Minister to England. While in England he was a great favorite, and did very much to cause the English people to think better of us Americans. While his term was not wrought with momentous questions of state and policy, he seemed to have that gracious way of winning the hearts of all with whom he came in contact. After Lowell returned from his famous career in England to his Cambridge home, in style not unlike that of the homes of Longfellow, some friends who had met him in the country-houses of England, visiting him in Cambridge, were surprised that a man so great and so famous could be content to live in what to them seemed such sordid conditions. They could not understand Republican simplicity, contrasted as it was to them with the splendor and state of high life in England.

"That portion of my life more choice to me
(Though brief, yet in itself so round and whole)
Than all the imperfect residue can be:
The artist saw his statue of the soul
Was perfect; so, with one regretful stroke,
The earthen model into fragments broke,
And without her the impoverished seasons roll."



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ELMWOOD — LOWELL'S STUDY

THE CAMERA IN SCIENCE

FRANK COLLINS BAKER

Photographs by Frank M. Woodruff

AT no time in the history of book-making has the matter of illustrations been given such a prominent place as at the present. Few books or papers are now published without some kind of illustration. In scientific contributions accurate illustrating is of the greatest importance, especially when the subject is some new or otherwise notable species. Until the advent of the camera the naturalist was compelled to be content with lithographs and wood-cuts. At the present time, fortunately, he may select from a number of photographic processes that which best suits his subject or purse.

In the present paper the writer wishes to call attention to the use of the half-tone in illustrating papers on the Mollusca. The mollusks usually have been pictured by means of lithographs, wood-cuts or zinc-etchings. Many of these, while fairly accurate, failed to show the exact proportions of the essential features of the shell. The personal equation is sure to creep in, and it is noteworthy that two artists seldom or never figure the same specimen alike. The photograph eliminates this personal equation and reproduces the object with lifelike fidelity.

Very few photographers seem to know how to take a good picture of a small object like a shell. The artistic feature is made to stand out in such a manner that the object for which the picture is taken is defeated; i.e., a clear definition of every part of the shell. The artist very naturally wishes to secure a shadow, as ordinarily all objects cast a shadow, and the proper adjustment of this feature is one of the fine points in a good picture. The zoölogist wishes, nay, must have, a figure without any marked shadow on the shell and without any shadow to mar the outlines. This much-desired result cannot be obtained by means of the usual methods of photography, and special apparatus must be provided. The ordinary method is to attach the object to a card, and the result is a black shadow which obscures the sharp outlines of the shell, as is seen in Fig. 2, which is very objectionable.

The method in use by the writer is as follows. The shell is attached to a clean piece of glass, which is placed an inch or two away from and in front of a white background. The camera and the background (which is attached to a wooden frame set vertically) are placed on a wide, horizontal track which allows a good play for distance, so that the picture of the object may be either enlarged or reduced. This apparatus is placed in a good light, preferably entering the room from the rear of and a little above the camera. The diaphragm is stopped to the smallest possible limit and plenty of time is given for detail. The result is such a picture as Fig. 3, in which shadows are eliminated and great detail is secured. The specimen is frequently exposed for five or ten minutes, in order to get well into the shadows and to secure all possible detail. Many times a number of exposures must be made before a really good picture is secured;

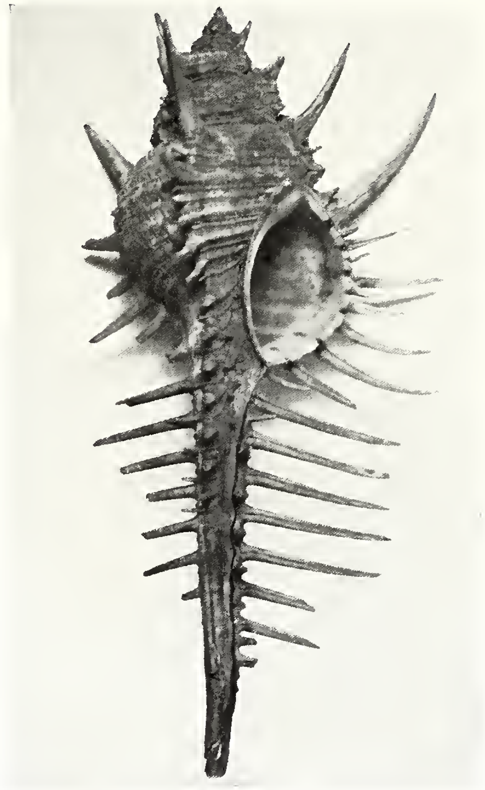


FIG. 1
SPINY ROCK SHELL — MUREX

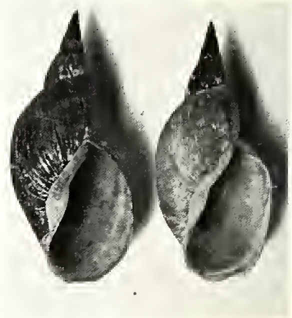


FIG. 2
POND SNAILS — LYMNÆA
SHOWING EFFECT OF SHADOW

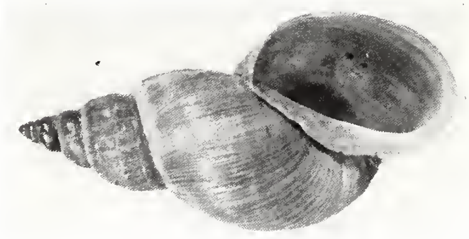


FIG. 3
POND SNAIL — LYMNÆA
SHOWING ABSENCE OF SHADOW

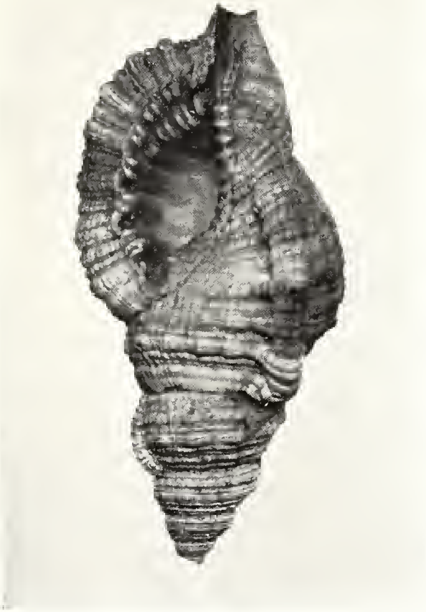


FIG. 4
TRITON SHELL — CYMATIUM

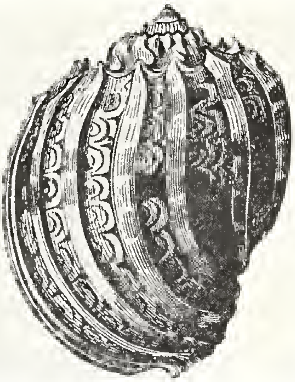


FIG. 5
DRAWING OF HARP SHELL — HARPA

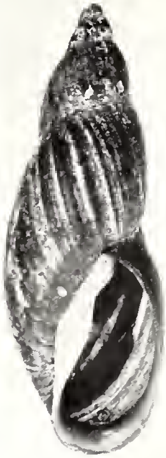


FIG. 7
POND SNAIL — LYMNÆA

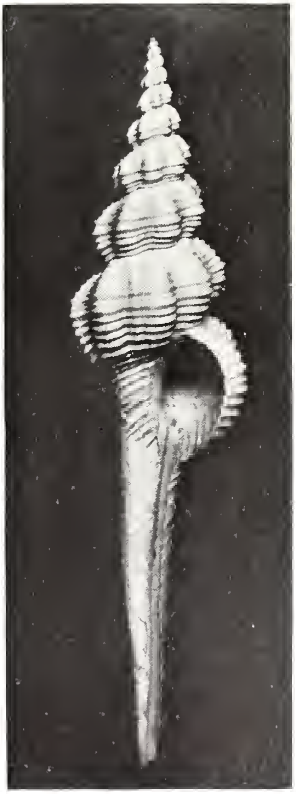


FIG. 6
SPINDE SHELL — FUSUS

hence plenty of time and an abundance of patient enthusiasm are absolutely necessary in order that good results may be obtained.

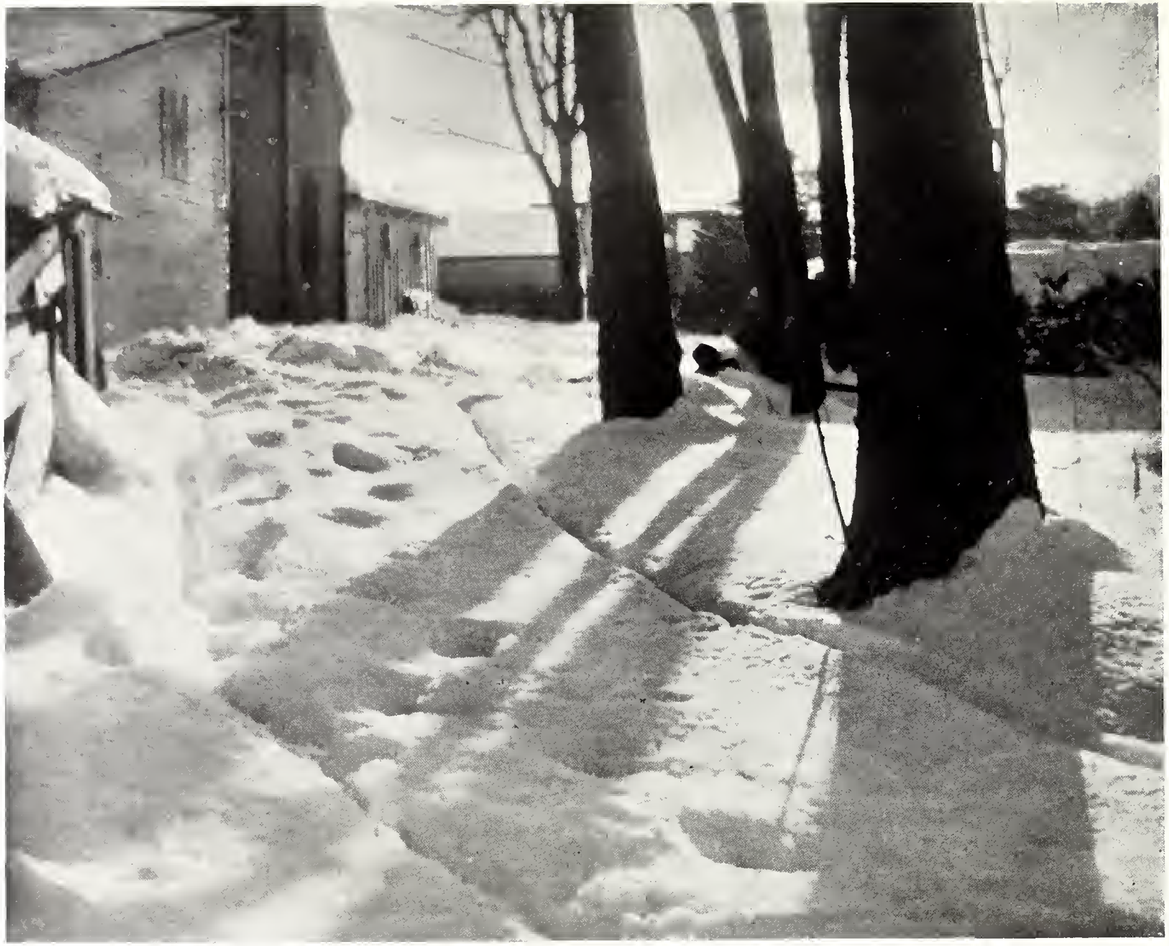
It often occurs that when good negatives have been secured the photograph is spoiled for reproduction purposes by a too dark or too light a print, the first obscuring the detail and the latter failing to bring it out. Then, again, a good print may be spoiled by the half-tone makers, the result being a muddy and generally indistinct reproduction, even when printed on good photo-paper. For zoölogical figures it seems advisable to use a screen of high numerical mesh, as this gives a greater amount of detail than when a coarser mesh is used.

The figures herein shown are examples of what may be done in securing accurate and handsome figures of mollusks. Is not the figure of the Triton shell (Fig. 4) much more lifelike than the figure of the Harp shell (Fig. 5), which looks dead in comparison? The first is a picture of the object itself; the latter is an artist's idea of how the shell looks — and the artist's ideas may not be, nay, generally are not, in accord with characteristics exhibited by the specimens. I do not deny that good drawings can and have been made, but the good shell-artist is a rarity, as all who have had occasion to use their work will attest. Recently, the writer had occasion to examine the type specimens from which a certain set of figures were made, and he was amazed to discover that the figures were quite unlike the actual specimens, which could scarcely have been identified from the figures made by the artist.

There have been several notable artists who have produced very accurate illustrations of shells, one of the best being the late Dr. McConnel, who prepared the illustrations for many of the molluscan papers published by the Smithsonian Institution. Prof. E. S. Morse, of Salem, Mass., may also be mentioned as one of the best of shell-artists, being, in addition, an accomplished conchologist. His excellent drawings may be seen in the Shell Monograph of Mr. W. G. Binney, which was published by the Smithsonian Institution some forty years ago.

Of the many methods of photographic reproduction for printing-purposes, albertype, heliotype, etc., the half-tone is probably the best for all practical purposes because of its comparative cheapness, and also because of the number of times a plate may be used without damage to the figures. This process is now largely used by the Smithsonian Institution and the Academy of Natural Sciences of Philadelphia, and a large number of very excellent half-tone plates have embellished the recent publications of these two institutions, giving conclusive proof of the popularity of photographic illustrations among scientific men.

The figures illustrating this paper have been made from specimens selected at random in the museum of the Chicago Academy of Sciences, and well illustrate, it is thought, the superiority of the photograph over the drawing. A comparison of these figures with those illustrating monographs and general papers on the Mollusca ought to convince the most sceptical of the truth of this statement. These remarks apply to the external forms of shells. There are many very minute species which require drawings; and details of structure, as well as anatomical illustration, will always require the aid of the artist.



JOHN CHISLETT SNOW SHADOWS

THIRD AMERICAN PHOTOGRAPHIC SALON

G. C. ELMBERGER THE GRAVEL-GATHERERS
THIRD AMERICAN PHOTOGRAPHIC SALON

KALLITYPE FOR WINTER LANDSCAPES

JAMES S. ESCOTT

THE progressive amateur who practises photography from pure love of it is usually a true artist at heart, and, as such, he will sooner or later chafe at the restrictions imposed upon him by the printing-papers on the market — the necessity of employing different processes to obtain the best results from different negatives, or the monotony consequent upon using the same kind of paper continually, even if it were possible to obtain results otherwise satisfactory thereby.

To such workers as earnestly strive to produce real pictures, and are willing to devote a little labor and patience to that end, the kallitype process offers such advantages that it should lastingly appeal to them. Its preparation and manipulation are easily within the ability of the ordinary careful amateur, and by variations in the quality and character of the paper used, the same negative may yield prints so different in texture, gradation and tone as to be a source of constant wonder and delight to the operator.

The process is not limited to a certain class of negatives either, as slight variations in the proportions of the sensitizing-solutions adapt the paper equally to negatives of thin and soft, or hard and contrasty variety, while the finished

DR. A. R. BENEDICT THE MAN ON THE BOX

prints will compare, in artistic beauty, to platinum at its best. Added to these decided advantages is one more — the process is inexpensive.

The paper itself is the most important factor in the result obtained. The specially prepared photographic papers, such as Steinbach, yield soft tones, with a tendency to cold black. Whatman's water-color paper, easily obtained in all surfaces, from smooth to very rough, offers a wide range in results — the rougher the surface the greater the tendency toward broad, sketchy effects, and warmer tones. Beautiful results may be obtained by the use of architect's drawing-paper known as "egg-shell;" it is heavy and strong, and yields rich brown tones. Ordinary ledger-papers, such as Weston's or Scotch linen, are very useful in this process, and are more used than any other kind.

The soft Japanese papers yield prints which are the refinement of artistic elegance, but require more care in the preparation and handling, it being necessary to mount them with white dextrine, on a strong, white paper, such as ledger or bristol-board, before the sensitizing-process, and allowing them to remain on this support during printing and development; if the paper does not leave its mount during the latter process, it may be removed easily by immersing in warm water.

Japanese papers require negatives of rather strong contrasts to yield the best results. It is absolutely necessary that the Steinbach and Whatman papers be "sized" to keep the sensitizing-solution on the surface. While the other papers mentioned above can be used without sizing, the prints are so much improved by the process that the little additional trouble is well spent.

Arrowroot is especially recommended, as it not only fills the pores of the paper, but it leaves a soft deposit which renders rich half-tones and velvety blacks. To prepare such size, rub eighty grains of arrowroot flour into a stiff paste with a little cold water. Add to this, stirring constantly, sixteen ounces of hot water, and bring the solution to a boil. Now add four ounces of alcohol, stirring constantly, strain through muslin, and immerse the paper for about two minutes; then hang up to dry. Repeat this operation, hanging the paper from reversed ends, and, when thoroughly dry, it is ready for the sensitizing-solution. This is made up in four stock solutions, kept in amber bottles in a dark, cool place.

I know of no improvement over Mr. Henry Hall's formula, which is as follows:

Solution A.— Distilled water, five ounces; ferric oxalate, one ounce. Reverse a few times, and put away for twenty-four hours; then add forty-eight grains selected gum arabic.

Solution B.— Distilled water, eight ounces; ferric oxalate and potassium, one-half ounce.

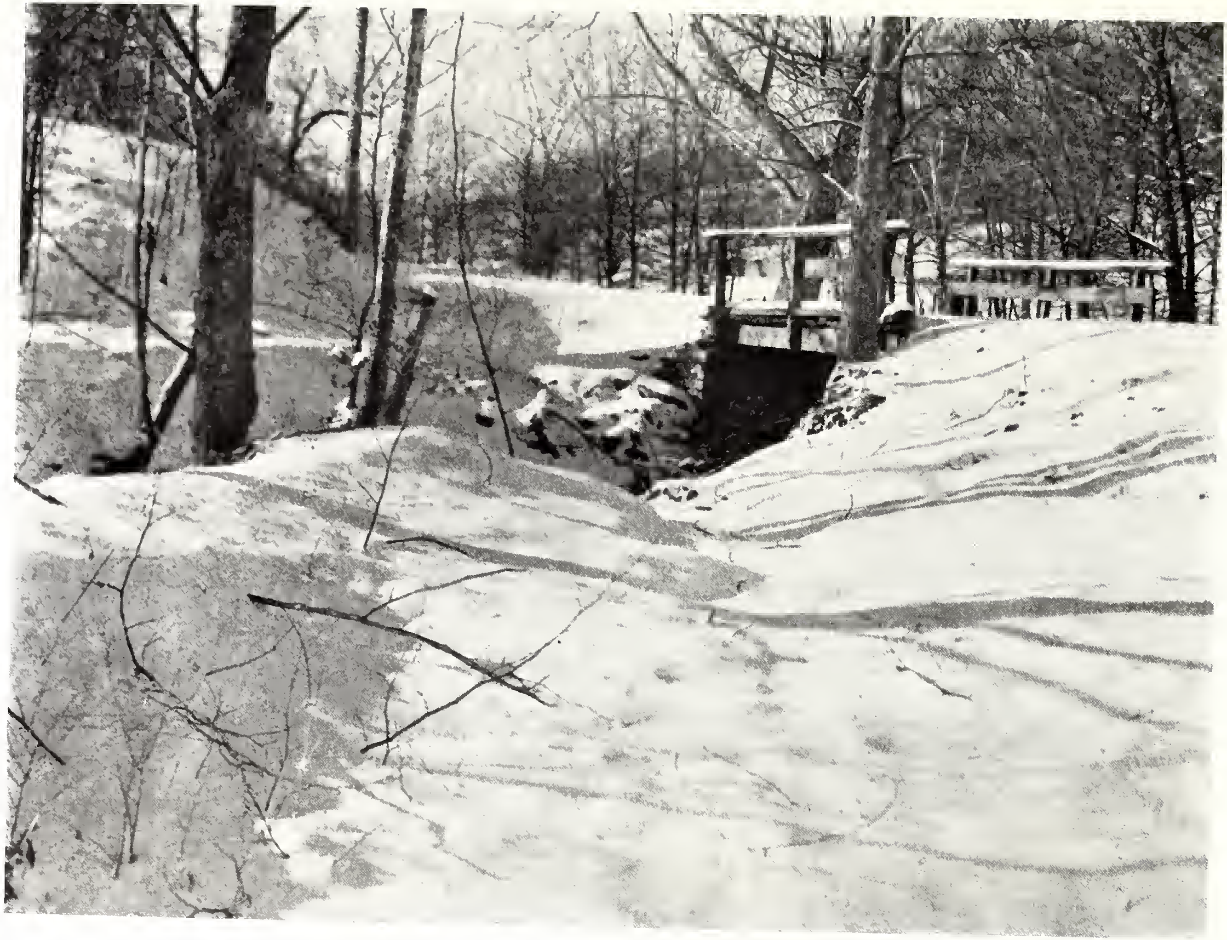
Solution C.— Distilled water, four ounces; oxalic acid, one-half ounce. When this is dissolved, bring to a temperature of seventy-five or eighty degrees, and add, slowly, one hundred minims stronger ammonia water; then filter.

Solution D.— Distilled water, four ounces; bichromate of potassium, one hundred and twenty grains.

For normal negatives, use of Solution A, one ounce; Solution B, one-half ounce; Solution C, thirty minims; Solution D, four drops. Of the above, take one-half ounce and add twelve grains nitrate of silver, stirring with a glass rod until dissolved.

For harsh, contrasty negatives, use of Solution A, one ounce; Solution B, one ounce; Solution C, thirty-five minims.

For soft, thin negatives, use of Solution A, one ounce; Solution B, one-half ounce; Solution C, fifteen minims; Solution D, eight drops.



JAMES S. ESCOTT

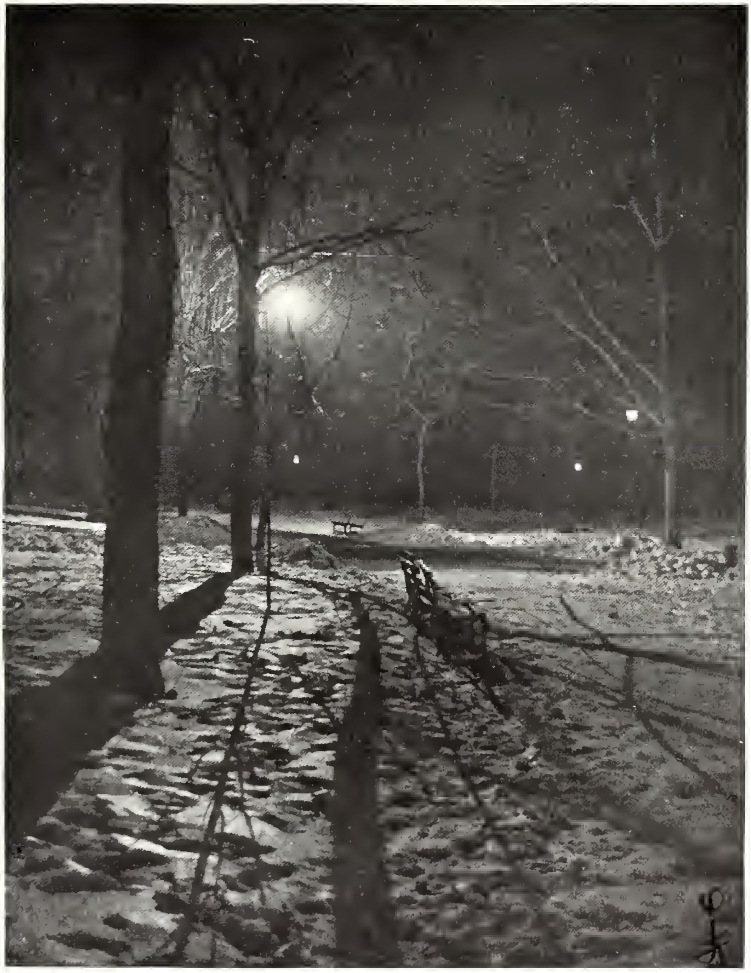
A WINTER LANDSCAPE ON KALLITYPE PAPER

GEORGE BUTTLER WAITING FOR A LOAD
THIRD AMERICAN PHOTOGRAPHIC SALON

In preparing solution for contrasty negatives, use fourteen grains of silver instead of twelve. Apply to the paper by pouring a small pool of solution in the center, and distributing with a two or three inch camel's-hair brush bound in rubber, using no more than sufficient to cover the surface of the paper thoroughly. This operation is conducted by lamplight; and when the paper is surface-dry it is hung over a stove or placed in an oven, so that it may quickly become bone-dry. Print until outlines are fairly visible, and proceed with development.

Developer Formula — Stock Solution.— Distilled water, thirty-two ounces; acetate of soda, four and one-fourth ounces. Of this, take eight ounces; add tartaric acid, twelve grains; Solution D, twenty minims.

If this does not yield tones sufficiently black, add twenty-five to fifty minims of fifty per cent phosphoric acid. After thorough development, rinse, and clear for half an hour in a fresh bath composed of distilled water, eight ounces; sodium citrate, one-fourth ounce; citric acid, twenty grains. Wash thoroughly and finally fix for ten minutes in a bath composed of water, sixteen ounces; hypo, seven drams; stronger ammonia, ninety minims. Wash thoroughly and dry. Of course, a good negative is the greatest help to a good print, and should be striven for in the first place.



LEE HAMILTON KELLER THE STILL NIGHT

In photographing landscapes covered with snow, my experience has led me to the invariable use of non-halation orthochromatic plates, with a normal yellow screen. This is because of the presence of so much blue tone in the shadows and broken parts of the snow surface, which, if not corrected, would fail to give sufficient contrast to the unbroken white of the snow. I generally use Stop 16, giving full exposure, followed by full development. If the high-lights are too dense, I reduce them with persulphate of ammonia, which leaves the shadows practically untouched.

A rough-surface Whatman paper is very effective for this class of pictures, giving a wash-drawing effect, and breaking up what might be a too flat expanse of white. Rough papers also aid in securing diffusion and atmosphere. Irrespective of the paper used, I frequently employ one or more sheets of celluloid interposed between negative and paper. This produces sufficient diffusion, without forcing some portion of the picture too much out of focus, and suppresses detail which might be too insistent.

In making prints on Japanese papers, if considerable margin is allowed, and a mask used on the *outside* of the negative, instead of between it and the paper, a soft outline is obtained, and the finished print, especially if a warm tone is being produced, resembles in appearance an artist's proof of an etching or mezzotint-engraving. These papers should be dried between clean blotters and under pressure.

There is no greater pleasure connected with the art than to watch the development of a beautiful print on home-made paper and to realize the immense possibilities and control which lie under the hand of the worker.

A. W. ENGEL STORY-READING

FUZZINESS

HORACE MUMMERY

THERE was a time when the excellence of a photograph, with the general public, was thought to consist in its sharpness and detail. This opinion still prevails, but with a number of workers it has given way to the idea that a picture cannot be really artistic unless it is fluffy and free from all minor forms and markings. We are told that the eyes cannot see as sharply as the camera can. This is true; but, on the other hand, provided they are attached to a sober person, they do not see with the same diffusion of focus that the lens is capable of rendering.

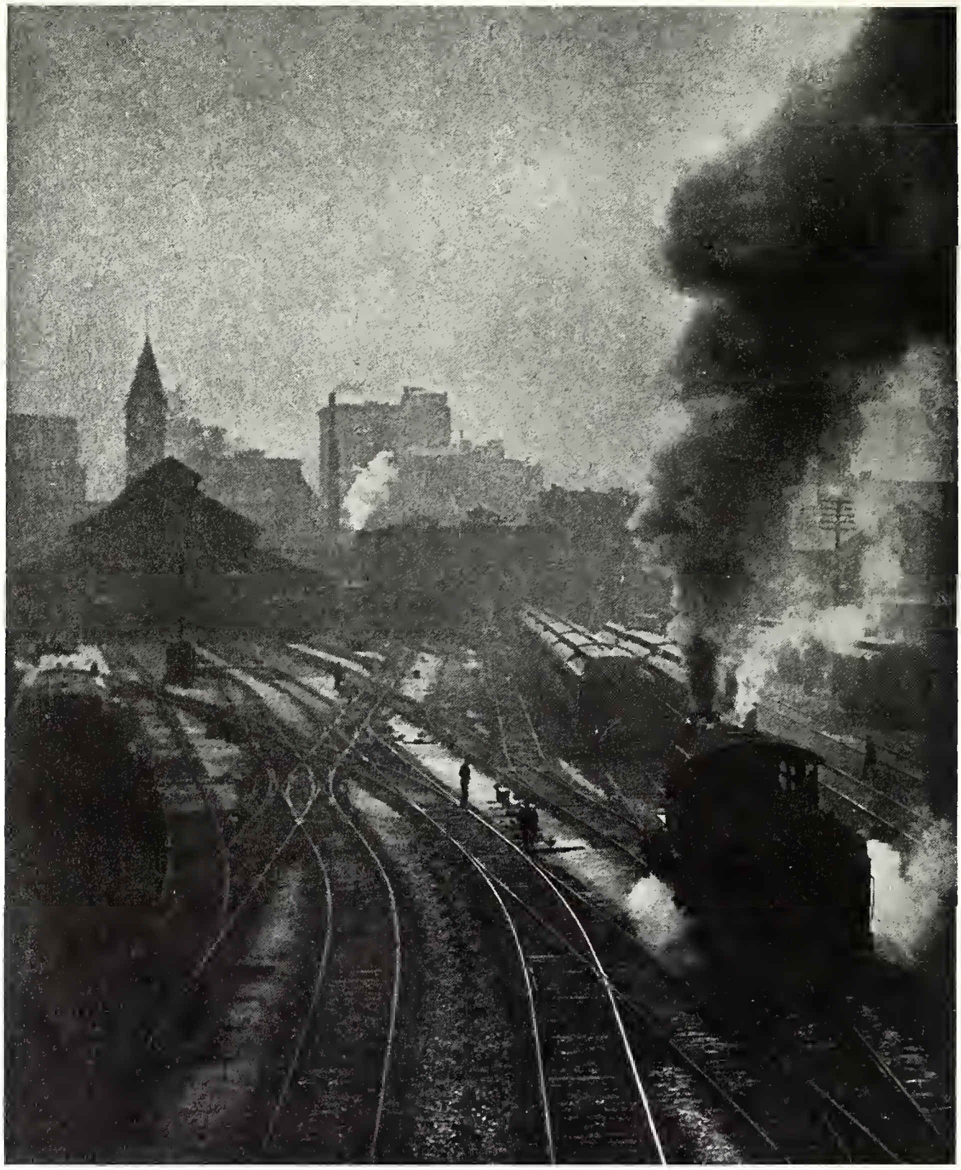
Accommodation of the Eyes for Different Distances.— If you hold your hand out at arm's length and look steadily at it, the pictures on the wall behind appear indistinct and doubled; but if you regard the pictures, the effect is reversed, and it is the hand that becomes indistinct. But when we walk about and use our eyes in the ordinary way we do not stare at one object or part of it with a fixed gaze; the eyes are constantly, though unconsciously, on the move, so that the whole scene appears in focus.

Avoid Extremes.— With the photographic lens you may have your focus too sharp, I admit, for you can get more detail than the keenest eye sees; but because this is so there is no need to fly to the other extreme. When one thinks of the beautiful things that the camera can show us it seems a pity to muddle them all away to a few shapeless blots.

Effect of Excessive Diffusion.— Too much diffusion eats away the edges of things, destroying the crispness; it is surprising how much this crispness (not hardness) of edge has to do with the apparent shape of objects. The fuzzy photograph always suggests bad drawing. The objects may be true in mass, but they do not reach out to their edges. All delicacy of contour is lost by this treatment.

Modeling and textures also suffer from undue fuzziness — and much of the pleasure of cultured sight is derived from these apparently small matters. For instance, a face or a limb, if the subtle modeling be lost, might as well be carved in wood. As for textures, if you destroy the texture of a tree, for example, away goes all feeling of leafiness, and there is only white, textureless cotton left.

Essence of True Impressionistic Painting.— The broadness of true impressionistic painting or of sketches is not the result of general softening, but of careful *analysis;* much is rejected, but the essentials are retained; the accent and firm drawing in places does not allow the spectator to miss the detail, for they suggest it to him. The sharper touches in the trees of Corot turn what would otherwise be a mass of soft paint into foliage; they are so cunningly disposed that the eye fills in the rest. But setting aside all skill and knowledge, this demands a process that allows of lightening or darkening, softening or hardening, at will, any portion, however large or small, of the picture.



D. H. BROOKINS
TRANSPORT OF MAN
THIRD AMERICAN PHOTOGRAPHIC SALON

Fuzziness.— The effect of diffusion is to generalize rather than to simplify. A painting or drawing is bad, however clever its sketchiness may appear, if it does not satisfy us with suggestions. We must be able to look at it and require no more; it should be a matter of surprise that so few touches mean so much. Apply the same test to some of the clever photographs that are about — for one should never be afraid of cleverness — see whether they are really simple or merely bare, mysterious or only obscure. Could you imagine yourself walking through them if they are landscapes, floating on them if they are sea-pieces, or shaking them by the hand if portraits?

Fuzziness interferes with values, contrast is lost, strength and attack are smoothed out of everything and the picture becomes tame and uninteresting. The reduction of Nature down to a few tones is a color-process; here and there some artist successfully does it — Whistler for instance — but it is a method that is spoiling many painters, as well as photographers, to-day.

Art and Fashion.— Art is terribly subject to fashion; we follow one another blindly; now it is considered correct to do one thing, but to-morrow it may be another. I am afraid that man — I do not mean the human race, but mere male man — cannot give a better reason for the things he does, at any rate in art, than the ladies can who must needs wear a certain shaped hat; but on a day, not to be distinguished from all the other days that have gone before it, this kind of hat no longer satisfies and another takes its place. And so — but I must pause, for I am fast getting out of my depth.

I think that fuzziness is a fashion — I hope a passing one. Much of it is the result of the superficial study of certain painters. Composition, arrangement and pictorial ideas may be gained from paintings, but it is a fatal mistake to attempt to copy the methods, traditions and faults even of painters. A photograph should be a photograph, and not an imitation of something else; when well executed it possesses a spontaneity and freshness that give it a charm and a place of its own in the world of art.

Legitimate Use of Diffusion.— I have ventured to give, at some length, my ideas regarding fuzziness, or the misuse of diffusion; but there are subjects and effects where I am ready to grant that softness is a gain. It would be difficult to say just when and where this may be, without illustrations. I have noted, from time to time, excellent examples in these pages; an interesting one was the frontispiece to this new series; viz., a view of Dordrecht, a town whose every association is connected with the old quiet days of the past, is seen across a stretch of placid waters. A gentle, quiet effect pervades the picture, but there is enough firmness to give reality. I instance this as a case of an effect suitable to a certain subject, but I do not regard it as a method suitable to every subject; some things are beautiful because of their detail, and require sharp, clear lighting; why be afraid to give this? On the other hand, where diffusion is good, make use of it, but only in such a manner that we do not have to rub our eyes when we look at pictures, and wonder whether we really ought to pay a visit to the oculist. — *The Practical and Pictorial Photographer, London.*

ECONOMY IN BROMIDE AND GASLIGHT PRINTING

REV. CANON A. E. BLOXSOME DAY

IT is said of a certain manufacturer of a well-known mustard that he made his fortune not out of the amount that people ate, but from what they left on their plates and threw away. I suspect that much the same thing holds good in the case of the manufacturer of photographic materials, and that there are few amateurs who in the course of their photographic experience have not sadly reflected upon the amount of money which they have wasted in plates and paper, which, had they been a little more careful or a little more skilful, might have been saved for future use.

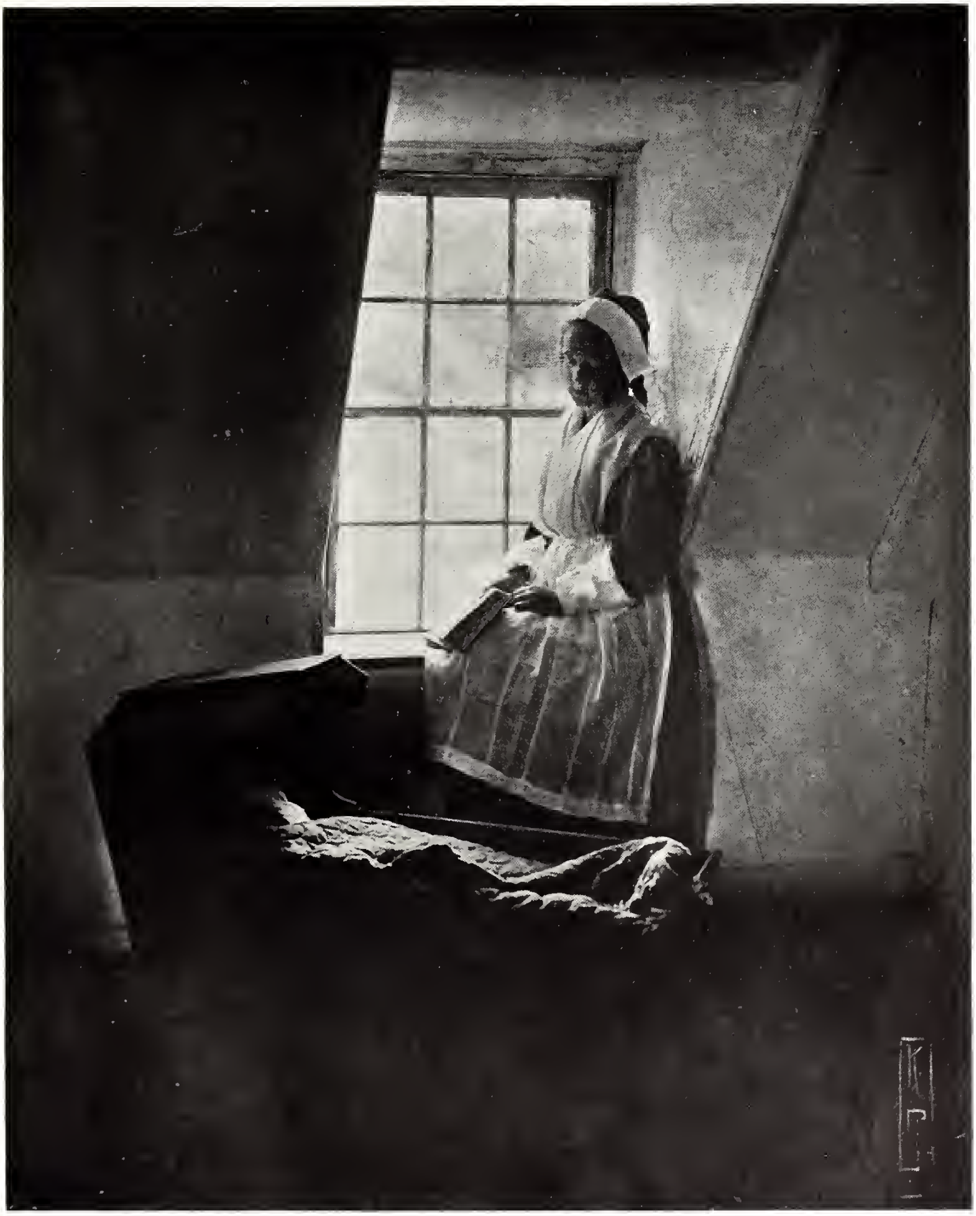
The object of this article is to show how waste in the most popular winter printing-processes may be cut down to an almost negligible quantity. Almost all the handbooks and most of the instructions given with regard to bromide and gaslight papers deal chiefly with formulæ for good developers, directions as to the light to be used and the correct distance of light from printing-frame and modifications in the strength of developer according as contrast or softness is aimed at. But they do not tell us what to do when we have not quite hit the right exposure, or when the print has unaccountably darkened in the fixing-solution, or suddenly manifested mysterious mottlings and markings that were not there when we took the print out of the developer.

The photographic expert or the trade demonstrator may tell us that these may easily be avoided by using their particular preparations at so much per bottle, or their firm's papers; but we may not be inclined to restrict ourselves to one particular brand, or to pay about one hundred per cent more for our photographic chemicals merely because they are ready made up and labeled "Bromox" than if we took the trouble to make them up for ourselves. Besides, at the end of it all we shall probably find that some of our results, even with all these refinements, do not come up to the standard we had been led to expect, and the photographic bill has but been lengthened to something more. Let the worker use whatever paper suits him best, and the same with the developer.

Personally I prefer amidol, as I think it gives finer blacks than any other, the formula for gaslight papers being:

Sodium sulphite	500	grains
Potassium bromide	2	"
Water	10	ounces
Amidol	50	grains

As the developer does not keep, it may be advisable to halve these quantities. It should be made up not more than an hour or two before use. The same formula acts excellently for bromide paper when diluted with half as much water again, a few drops of ten per cent solution of potassium bromide being added. Some short time ago, having seen in the photographic press a formula for the prevention of abrasion-marks, and having some glossy prints to make, I was tempted to abandon my favorite amidol and to try M. Q., with ten grains of



KATHERINE BINGHAM
RESPONSIBILITY
THIRD AMERICAN PHOTOGRAPHIC SALON

potassium iodide added to each ounce of stock solution, as recommended. The results were not at all satisfactory. I still thought there must be something in the idea, and bethought me of a formula which has been given for producing bright prints on bromide paper from very weak negatives. It consists of giving the full exposure as if printing from a normal negative, then developing up the image fully, without taking any heed to the high-lights darkening, and, after fixing and thorough washing, immersing the print in the following:

Potassium iodide	30 grains
Water	10 ounces
Iodine	3 grains

until the high-lights turn blue, and then transferring it straight to a *clean* fixing-bath for five minutes.

Having some overprinted gaslight prints, I made up the solution and tried it upon them. The result showed not only a tremendous improvement in the prints, but also that any development-marks were cleared off, though, of course, the reduction was very great. I then tried the solution upon a print of a group in which an ugly background was prominent, and by alternate mopping with swabs of cotton — one charged with the solution and the other dipped in water — and an after-transference to the hypo-bath, I found that it was possible to obtain a nicely vignetted group with the background merging into clear white.

My next experiment was to dilute the iodide bath with three times its bulk of water, and to place some correctly exposed and developed prints (both gaslight and bromide) in this dilute solution; and I was gratified to find that there was no reducing-action if the prints were not left in the bath for more than a minute, and then transferred to the hypo, but that they were beautifully cleared of all abrasion and development marks, and when thoroughly washed and dried were more sparkling than others which had not been through the process.

I am sure that any one who tries the method will be delighted with the result, and will find that he can by this simple means save and improve many a print which otherwise he would have thrown away as too dark or flat, or as hopelessly spoilt by unsightly surface marks. Thus he will effect an enormous economy in printing-papers, for so long as he does not under-expose his prints, but errs by preference on the side of over-exposure, he need never waste a single print. One which looks hopelessly dark and foggy will come out clear and bright from the strong solution. Another, which is all his fastidiousness requires but for surface blemishes, will in the weak bath amply repay him for the extra trouble.

I am certain that the way to use iodide is by an after-treatment of the print in this direction, and if some one can simplify the method still further — though it is simple enough as it stands — he will earn the gratitude of many an ardent user of bromide papers, whose ardor is sometimes checked by the depth of his pocket. A final advantage of the process is that it can hardly have any deleterious effect on the keeping-qualities of the print, as the ingredients of the solution have been proved by Mr. Blake Smith, in his book on toning bromides, to be the safest to use for bleaching bromides preparatory to toning.— *Photography, London.*

F. S. PIPER SHAKER GLEN

A MOUNTAIN BROOK

WILDIE THAYER

Dear little brook, with laughter gay,
  Your secret tell to me;
How go you ever on your way,
  So happy, bright and free?
Rough is the path you journey through;
  Yet, trusting without fear,
Forever you your course pursue,
  All sweet and cool and clear.

"With joy and trust," the brook replied,
  "I sparkle on my way;
For, far up on the mountain-side
  I'm born anew each day.
So ever merrily I go;
  A happy brook am I,
For He who called me forth, I know,
  Will all my needs supply."

EDITORIAL DEPARTMENT

THE NEW RÉGIME

WITH the present issue this magazine begins a new epoch, which, we confidently anticipate, will prove a source of satisfaction to its many readers and advertisers. It will be the policy of the present publisher to maintain, and to improve so far as he can, the standard of PHOTO-ERA, as a high-class medium of photography, which, from a literary, scientific and artistic standpoint, has won for the magazine the confidence, admiration and support of thousands of workers in this country and abroad. The new PHOTO-ERA will continue to treat photography as an original art and, while recognizing the claims to distinction of the various schools and individual workers, will exercise a broad and generous spirit towards all, encouraging the beginner, as well as any deserving worker struggling for recognition.

Of equal, if not greater, importance are the obligations, pecuniary or otherwise, which a publication of the character of PHOTO-ERA assumes. The old PHOTO-ERA Company has ceased to do business, and the new management assumes all unexpired subscriptions and advertising-contracts for PHOTO-ERA. The sale of photographic specialties will be discontinued. It is not the province of a well-conducted magazine to compete with its advertisers in this respect. We believe, however, that it is not prejudicial to the interests of a photographic journal to offer, occasionally, a valuable piece of apparatus as a prize for artistic excellence in photography. Barring unavoidable accidents, PHOTO-ERA will appear regularly, and subscribers should receive their copies not later than the first of each month. In spite of the delays and other annoyances incident to a change of proprietors, PHOTO-ERA has appeared each month in its usual, attractive form, and, a pleasure to relate, it has also enjoyed the loyal support of its subscribers and advertisers. We chronicle this circumstance with an expression of sincere gratitude, and shall endeavor to merit a continuance of this friendly and generous spirit.

THE DEALERS' MISTAKE

THE sale of stale or spoiled photographic goods, by dealers to practitioners, especially to inexperienced amateurs, is, to say the least, a short-sighted policy. That this is due to ignorance, rather than to design on the dealers' part, may be taken for granted. Still, this does not excuse the practice; for the results are obviously far-reaching. In the first place, it may mean the permanent loss of a customer. In the second place, it is a gross injustice to the manufacturer, who furnishes his agent with goods of undeniable excellence and good keeping-qualities. Besides, a continued run of bad luck, on the part of a new convert, is likely to cool his ardor, and, as has happened in one instance to our knowledge, cause him to abandon, once for all, his new pastime. Having received intelligence of several complaints of the nature stated, we traced them to their source and found that the trouble lay with the dealer. In one instance — a case of fog — we learned that the stock of dry-plates was kept in the cellar, which was extremely damp; never otherwise! In another case the dealer usually displayed a large number of dry-plates in his shop-window, which faced the south. In the summer these highly-sensitive plates, exposed, as they had been, to the hot rays of the sun for days, if not weeks, doubtless caused the consumer endless disappointment. Little did these dealers heed the warning, legibly printed on each box, "Keep in a cool, dry place." Platinum and other sensitive papers, even dry-plates, are sometimes stored on shelves close to the wall near the chimney. During the summer months this does not affect the keeping-qualities of these goods; but in the winter it is fatal. There are dealers who, unacquainted with the nature of photographic merchandise, will store chemicals and sensitized papers close together, in one receptacle. Others, unaware that certain chemicals, kept in loosely-stoppered bottles, will undergo a radical change, unconsciously sell sodium sulphate for sodium sulphite. Do the manufacturers get a square deal in cases like these? Let the delinquent dealers take the lesson to heart and exercise more care in storing their photographic supplies.

THE EVOLUTION OF THE "ARTIST-PHOTOGRAPHER"

OUR esteemed cotemporary, the editor of *Camera Craft*, has lost not a whit of his native humor on account of the terrible ordeal through which he passed as San Francisco was reduced to ruins. In the unavoidably-delayed December issue of his excellent magazine he entertains his readers with an assorted collection of hidden photographic journals, which he is pleased to call "Advertisements." Each magazine is humorously referred to by some of its failings — no photographic monthly has reached the state of absolute perfection — and, although the "pacific" editor has neglected to preface his gentle blows with an apology to his victims, we are sure that these, our brother editors, will have appreciated the humor thus conveyed and taken it with entire good nature.

This form of entertainment reminds us of a well-known American photographer, each successive step in whose career is characterized by a variation in his patronymic. The "artist-photographer's" evolution was effected as follows:

As retoucher at Potter's Photographic Studio, the dawn of his career, he figured as plain

HARRY SAUNDERS.

As assistant posing-artist in the same studio he was known as

HENRY F. SAUNDERS.

As chief posing-artist at the Van Rensselaer Studio he styled himself

H. FETHERINGTON SAUNDERS.

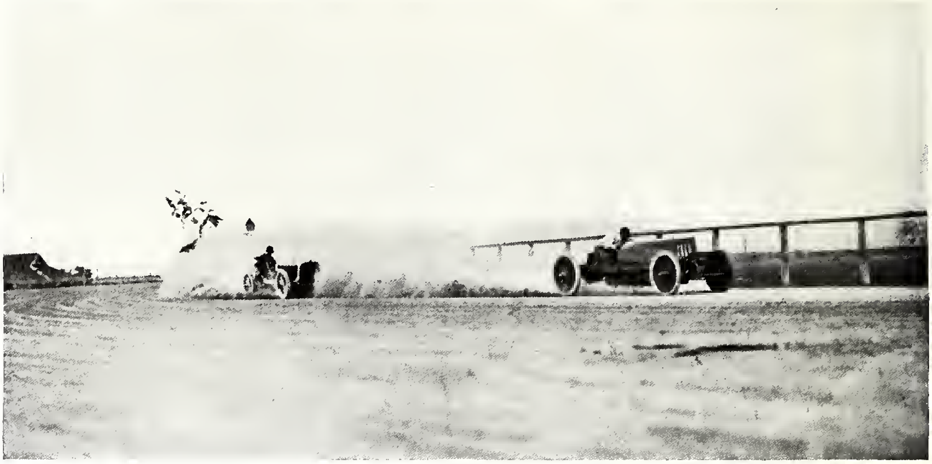
As proprietor of the Van Dyck Studio he stands forth as

HENRY FETHERINGTON SAUNDERS.

For the sake of propriety we have slightly disguised the name of the photographer. Who of our readers can discover his identity?

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to PHOTO-ERA.



JNO. M. SCHRECK FIRST PRIZE — HIGH-SPEED PHOTOGRAPHY

"The willow lifts a yellow haze
Of springing leaves to meet the sun,
While down their white-stone courses run
The swift, glad brooks, and sunshine weaves
A cloth of gold for cowslip leaves
Through all the field of April days."

The spring is in the air and in the blood. The cloud-shadows are chasing each other over the greening hills; tender leaves are bursting on tree and bush; the hedgerows are full of singing birds; and the words are carpeted with the first frail blossoms of the year — beautiful because they are so fragile, because their day is so brief.

April days, when the tender haze of returning spring envelops the trees, are just the days for making charming pictures of wood interiors. If one goes to the woods to gather wild-flowers let him by all means take his camera and bring back some of the charming vistas which can be seen in the woods at only this time of year.

The brooks are brimming full of water, and sparkle, and foam and eddy as if they too had caught the spirit of spring. And they make such satisfactory subjects; for no wood-picture is quite complete without a glimpse of a happy brook traveling merrily through it.

The April days give one opportunities of securing "atmosphere" in one's out-of-door pictures, too; for there are no days in all the year quite like the April days, with their sudden showers of rain, their low-hanging mists, their fleecy, flying clouds; and atmosphere means much to the success of any picture.

April is here, and the wise amateur will make haste to catch the "uncertain glory of an April day" and embalm it on his gelatine plate.

NOCTURNAL PHOTOGRAPHY

Some of our Guild members have not yet essayed making photographs out-of-doors at night, but they may be assured that they will find it very interesting and not at all difficult.

The pictures are all time-exposures, so a tripod is a very necessary adjunct to one's outfit. It should be attached to the camera before starting out, as it saves cold fingers on a wintry night, wet fingers on a rainy night and time and trouble any night. To keep the legs of the tripod from swinging out and making themselves a nuisance, a stout string should be wound around them several times, but not tied, and for convenience it should be permanently attached to one of the legs of the tripod.

A hand camera will be much more serviceable than a view camera, as, the light being dim, one must depend on the focusing-scale and one's ability to judge distances, rather than on any image thrown on the focusing-glass.

A bag with two pockets, and with a strap to throw over the shoulder, is the handiest affair for carrying the plate-holders, which are stored in one of the pockets and when used are transferred to the other. A box of wax matches that will light in the wind, or a small bull's-eye lantern, should form part of the outfit. Everything should be in the most convenient shape possible, as one does not find a piece of mislaid apparatus nor adjust the mechanism of a camera with any facility in the dark.

To make the most interesting nocturnal pictures one should choose either a night when snow is on the ground, or else a night when the streets are wet and the reflections of light on the pavements make interesting effects.

Non-halation plates are recommended for this sort of work, but experience has demonstrated that the ordinary plate answers quite as well, and the time of exposure is just half that required when the non-halation plate is used. The non-halation plates are perhaps preferable for a street brightly lighted with electricity, especially if lights are to be brought in rather close proximity to the camera. When lights come within the field of the lens halation will occur around them, but this does not detract from the picture, for a halo is always observable about a street-light on misty or rainy nights. If a very strong light comes near the camera and within the field of the lens, move the camera so as to bring a tree-trunk or some similar object between it and the camera, shutting out the direct light but not obstructing the view.

The time of exposure varies as in any other picture-taking, being governed by the light, the rapidity of the lens, and the rapidity of the plate. Three minutes on a brightly-lighted street is ample time, and even ten minutes does not seem to over-expose the plate. On a snowy night, or a rainy night when the pavements are wet and reflect the lights, an exposure of one minute will usually produce a good negative. If taken by moonlight, the exposure may be from fifteen minutes to half an hour, according to the brilliancy of the light and whether snow is on the ground or the contrary. Over-exposure is seldom to be feared.

One need not be disturbed by the passing of people or vehicles across the field of the lens, for they fail to make an impression on the plate. This is due to the long exposure and the insufficient lighting. A cab or carriage standing still during the exposure will be a part of the picture, and if far enough away from the camera the movement of the horses will not give a blurred image. A line of cabs drawn up before a brilliantly lighted building take well, and if between the camera and the light they will appear as silhouettes.

One of course understands that night pictures have not the distinctness and sharpness of a similar scene taken by daylight. They are suggestions or sketches, and their very indistinctness, "concealing yet revealing" the objects, is their greatest charm.

A scene in a park on the shore of a tiny lake where the lights are reflected in the water is a specially good subject for a nocturnal photograph. If there are ripples on the water they flow uniformly or in rhythm, so do not make a series of blurs on the plate.

One should use the largest stop, as all the light possible must be admitted to the plate; and then one will not get the artistic effect if a small stop is used.

Rainy April nights are ideal nights for making out-of-door night pictures.

HOW TO CULTIVATE ORIGINALITY

Creative genius keeps the world progressing in every department of industry, science, literature and art, yet we are so accustomed to these discoveries and inventions that we seldom give a thought to the brains that are constantly busy and the skilful fingers that are ever employed to produce this endless variety.

We all of us possess the faculty of invention in a greater or less degree; but unless used, it is like any unused sense, it lies dormant. The real difficulty in producing anything original is that it requires a great deal of thought, and the majority of people give very little time to serious thought on any subject — even less to originating anything.

We learn to think by studying the expressed thoughts of others, and we learn to invent or originate by studying what others have invented or originated.

Originality in a picture means the exemplifying of a thought or idea in a new way. The idea itself may not be new, but the manner in which it is pictured gives it a new meaning, and therefore it is called original.

One way to stimulate the imagination to compose original pictures is to select from an art catalogue several expressive titles and then try to imagine appropriate pictures for the titles. The name chosen becomes a nucleus around which the ideas gather, and it is surprising how the fancy begins to grow and take definite shape in the mind when it is given something on which to feed.

The facility and aptness by which ideas can be expressed by means of pictures make them a symbolic language easily understood. Pictures are used for many other purposes besides the illustrating of books and periodicals. Manufacturers use them to advertise and to call attention to their goods, the picture usually being some ingenious allusion to the article advertised.

Many of the pictures used in advertising are made from photographs instead of from drawings, and thus material for pictorial advertising opens a door into a lucrative occupation to the one who has wit enough to originate and skill enough with his camera to picture his idea.

Probably most of us have seen that clever picture advertising a certain brand of soap for washing woolens. The picture is of two youngsters, one wearing a garment washed in the soap that will not shrink the woolen, and the other wearing a garment that has shrunken to almost nothingness from being washed in poor soap. This picture was made from a photograph, and the artist said she made two dozen negatives before she succeeded in getting one that was satisfactory. She had the genius to originate the idea, the skill with her camera to illustrate it and the perseverance to keep trying until the result was successful. This picture was considered clever enough to be pirated by a London firm, who used it to advertise a brand of English soap.

There is always a market for original ideas, and the more the inventive faculty is used the faster it grows.

Let the members of the Round Robin Guild set their wits at work, and perhaps some one of you may originate something that will be "an argument for a week, laughter for a month and a good jest forever after."

THE USE OF THE SWING-BACK

The swing-back is an arrangement for adjusting the plate-holder at any desired angle in order to bring the object to be photographed parallel with the plate. Its design is to do away with distortion, especially in photographing buildings.

In arranging the camera for photographing a building it is often necessary to point the lens upward in order to include the top of the structure. In doing this the back of the camera is tilted at quite an angle, and if the plate is exposed when

H. H. RUSSELL SECOND PRIZE — HIGH-SPEED PHOTOGRAPHY

the camera is in this position the resulting picture will be an example of what is known as "crazy architectural photography." The lines of the building, instead of being vertical, converge in such a way that the building appears narrower at the top than at the base. The swing-back obviates all this difficulty. When the front of the camera is raised, and the lens pointed upward, the screws of the swing-back are loosened and the back-board adjusted until it is in an exact horizontal position.

A little device to show whether the swing-back is horizontal is a small brass pointer fastened by a brass pin to the side of the swing-back so that it hangs loosely and will swing with the movement of the frame. A small pin or screw is set just below it, and when the swing-back is perfectly horizontal the end of the pointer will be on a line with the indicator below.

In taking pictures of high buildings the lens should be raised a little above the center of the plate. This is done by moving the rising and falling front. When the lens is raised it cuts off a portion of the foreground and saves tilting the camera as much as would be necessary if the lens was in the center of the plate.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts or other photographic materials advertised by us, or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in the Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is also free to all, whether subscribers to PHOTO-ERA or not.

SUBJECTS FOR COMPETITION

March — "A Windy Day." Closes April 30.
April — "A Showery Day." Closes May 31.
May — "Nocturnal Photography." Closes June 30.

June — "Interiors, with Figures." Closes July 31.
July — "Landscapes." Closes August 31.
August — "Waterscapes." Closes September 30.
September — "Sunsets." Closes October 31.
October — "Windows and Doorways." Closes November 30.
November — "Genre Studies." Closes December 31.
December — "Home Portraiture." Closes January 31.

AWARDS — HIGH-SPEED PHOTOGRAPHY

First prize: Jno. M. Schreck.
Second prize: H. H. Russell.
Third prize: George R. Carter.
Honorable Mention: Lewis T. Emmert.

SENSITIZING PLATINUM PAPER

While most amateurs prefer to buy the platinum paper already sensitized there are some who like to experiment with the process of sensitizing. One of the simplest formulas, and one which, like the advertisements in florists' catalogues, is warranted to "come true from seed," is herewith given.

The paper is first salted and dried. One can buy the paper ready salted or salt it himself after formulæ already given in the Guild Department.

The sensitizing-solution is made up in two solutions.

No. 1

Ferric oxalate	1 ounce
Water (filtered)	4 ounces
Oxalic acid	32 grains

No. 2

Potassium chloro-platinite	$\frac{2}{3}$ ounce
Water (filtered)	4 ounces

To sensitize, take three ounces of Solution No. 1, two and two-thirds ounces of No. 2, and add half an ounce of water to the solution. The mixture may be applied to the sheet with a wad of surgeon's cotton, or it may be poured into a tray and the paper floated on the surface for two minutes. Dry quickly in a dark room. The developing-solution is made of one hundred and thirty grains of oxalate of potash to one ounce of water.

Undoubtedly, the first trial at sensitizing the paper will not be successful. It requires practice to coat the paper evenly, but after two or three attempts the process becomes easy.

ANSWERS TO CORRESPONDENTS

Emil S.— To remove the discoloration from your Velox prints, immerse them in a solution made of one-half ounce of sulphuric acid, one ounce of chrome alum and ten ounces of water. The prints must be washed well after immersion in this bath.

Jean G. H.— Printing by diffused light means printing either in the shade or placing some transparent fabric between the negative and the direct rays of the sun. Most photographers use tissue-paper to cover the negative when the printing is done in sunlight. The kind called onion-skin paper is used, as this is free from flaws and of an even texture.

E. R. H.— The round, clear spots on your negatives, with sharp, dark edges, are caused by the formation of air-bubbles on the surface of the plate when the developer was turned over it. The plate should be slid quickly into the tray and rocked immediately to break the bubbles if any have formed.

H. Kahn.— Toning-baths for silver prints should be made up for at least an hour or two before using. This gives them a chance to ripen, and the toning will be more even and the color obtained much finer.

C. L. O.— The reason of your films sticking to the paper in drying is because they were the non-curling films and are coated with gelatine on both sides of the celluloid, though only one side is sensitized. To dry, pin them up by the corners to the edge of a shelf.

Bertha B.— Use a soft pencil sharpened to a needle-point for touching out the freckles and lines on a portrait. The Kohinoor, 5 B's, is an excellent pencil for this work. If the film has not tooth enough, rub the places to be retouched with a little powdered pumice-stone. This will roughen the film just enough to make it take the pencil freely.

The Crucible

A SULPHIDE TONING HINT

An able English worker has recently suggested a very satisfactory dodge in toning bromide prints, by means of which far more pleasing results may be obtained than the usual sepia tones, which are frequently somewhat cold in spite of their brown color. The prints should be bleached as usual, and then exposed for several minutes in sunlight, until they become of a grayish color. After this, they are toned as usual, the resulting tone being a beautiful, warm, chocolate brown.

LANTERN-SLIDES BY THE CARBON PROCESS

A method of making transparencies and lantern-slides by the carbon process has been suggested by Dr. Hauberrisser in Eder's *Jahrbuck*, the advantages of which are that a tissue of any color may be used and that neither frilling or reticulation occur. Dr. Hauberrisser exposes the tissue under the negative in the ordinary manner, but for about double the usual time — harsh negatives even longer. It is then developed in the customary way on waxed transfer-paper, after which it is brought into contact with the gelatine of a fixed-out lantern-plate, as a final support. This last transfer should be made under water at about 75° Fahr. The tissue should then be gently squeegeed to the gelatine and the waxed paper stripped off.

A CURE FOR HALATION

Immerse the negative in a solution made up as follows:

Water	5	ounces
Chromic acid	15	grains
Potassium bromide	30	“

When bleached, redevelop with fresh developer until only the halated parts remain when looked at from the glass side. Finally, place in a strong hypo-bath, which will dissolve away this portion.

REDUCTION OF GASLIGHT PRINTS

A good stainless reducer for Velox or Cyko prints may be made as follows:

Potassium ferric oxalate	20	grains
Sodium sulphite	200	“
Water	5	ounces

Shake until dissolved, and then add:

Oxalic acid	75	grains

Shake until the solution becomes a bright green in color, pour off any acid that is not dissolved, and add:

Hypo	2¼	ounces
Water to	10	“

With this reducer it matters not whether the print is free from hypo before its use. It may be used repeatedly, if kept in a dark place.

GLYCIN FOR STAND DEVELOPMENT

Glycin is probably the most favored of the many developers for stand development, because it keeps especially well in solution, does not discolor or fog negatives, even when the time of development is long, gives an extra fine grain-character of deposit especially suitable for microscopic work or enlarging and yields bright, well-graduated negatives of good printing-color and quality.

Hueble's formula is as follows:

Boiling water	2	ounces
Sodium sulphite	1¼	“

After this is dissolved, add:

Glycin	½	ounce

And then, gradually,

Potassium carbonate	2½	ounces

The thin cream thus formed keeps well in full, tightly-corked bottles. As a strong effervescence takes place when the potash is added, it should be done slowly and carefully, in a large dish.

For use take:

Stock solution	1	ounce
Water	80	ounces
Potassium bromide	8	grains

With a solution of this strength the image will appear in from fifteen to thirty minutes, and development will be complete in several hours. This may be too slow to suit some workers, but a little experimenting with stronger solutions will readily determine just how the action may be completed in the desired length of time.

INK-STAINS ON NEGATIVES

An accidental drop of ink on negatives is a frequent occurrence, but there is a remedy. Soak the negative in water just made acid with a little hydrochloric acid and rub the ink-spot gently with a saturated solution of salts of lemon. Another method is to soak first in an alum-bath and then rub the spot with a saturated solution of oxalic acid.

PHOTOGRAPHING DOCUMENTS AND LINE DRAWINGS

The plates used are of the greatest importance, and should be of the slow process variety. Hydroquinone is the best developer, prepared as follows:

Hydroquinone	32	grains
Sodium sulphite	320	“
Formaline	40	“
Water	4	ounces

As long as the lines or letters show no sign of deposit development should be continued, but upon the first appearance of darkening, rinse and fix. If the whites are not dense enough in the negative they may be intensified by the usual methods.

SIGNATURES

There is no necessity for signing a photograph at all, and the photographer has less excuse than the painter for inflicting his autograph on all who glance at his work. For the painter, at least, has his brush in hand as he gives the last touches to his work, and can put his initials or monogram unobtrusively into some corner of it; while the photographer, unless he is so incorrigible a faker as to paint on his print, has got to take pencil or brush and use a foreign medium to proclaim its authorship. Still, if he likes to do so, and will put his mark on the work so that it is not an eyesore, we have little to say against it; and it is only when the name is so prominent as to interfere with one's appreciation of the picture that bears it that we would protest.

A well-known worker, one of the worst offenders in this respect, proclaims his authorship in bright red letters on decidedly dark-toned prints. Many who put their names on their prints err from not knowing how best to do it. Lettering should neither be in white nor in black, nor in the full depth of the particular color of the print. The letters should match the print in color, of course, but should be put on with a brush containing such weak pigment that they are only a trifle darker than the particular tone which happens to form their ground. When this is so, the name will be there for reference, but unobtrusive, and in such a form little exception can be taken to it.— *Photography.*

A PYRO-SODA DEVELOPER WHICH WILL KEEP

It has ever been a problem to keep pyro in solution without deterioration. Both sulphurous and oxalic acid act to a certain extent as preservatives; but with either, the solution deteriorates more or less rapidly from the time it is made. B. J. Edwards, of Ealing, England, claims that a solution containing equal weights of pyro and sodium metabisulphite will keep in good condition for at least four years, and, he believes, indefinitely. Metabisulphite of sodium or potassium, for either acts equally well, would, therefore, seem to be the only perfect preservative of pyro. If the pyro is good and fresh, and the water has been distilled, the solution will be colorless and will remain so.

Mr. Edwards advises a two-solution formula, the alkaline portion being a fairly concentrated solution of both sulphite and carbonate of sodium. Particular attention should be given to the sulphite in order to make sure it is in good condition.

Mr. Edwards's formula follows:

A

Pyro	1	ounce
Sodium metabisulphite crystals	1	"
Distilled water, to	80	ounces

B

Sodium sulphite crystals	10	ounces
Sodium carbonate crystals	10	"
Distilled water, to	80	"

For uses, take equal parts of each. For ordinary work the developer may be used far stronger, but for portraits it works better at half strength. However, the worker can vary its strength to produce the required degree of density to suit his purposes. At 65° Fahr., development will be complete in five or six minutes. Potassium bromide may be added in the form of a ten per cent solution, if needed, and it will increase contrast without materially lengthening the time of development. The negatives are neutral black without stain, and the solution may be used for several plates if developed in succession.

DRYING CARBON TISSUE

Contrary to the belief of many workers in carbon, it is not necessary after sensitizing the tissue to dry it in the dark or even in a dull light. It may be squeegeed to a ferrotype plate and allowed to remain on it to dry in an ordinary room without the slightest danger. Tissue so treated has a beautiful glossy surface which gives perfect contact with the negative.

METOL DEVELOPER FOR PORTRAITURE

A good one-solution metol formula producing negatives suitable for portrait-work may be made as follows:

Water	20 ounces
Metol	160 grains
When dissolved, add:	
Sodium sulphite	3½ ounces
Potassium bromide	22 grains
Potassium carbonate	1¾ ounces

For use, take one part developer to three parts water.

REMOVING FERRICYANIDE STAINS

Frequently negatives become stained from careless use of the solution of potassium ferricyanide in Farmer's reducer, and it becomes desirable to remove them. This may be done by immersing the negative in a weak solution of ammonium sulphocyanide, about five grains of the salt to each ounce of water.

OINTMENT FOR METOL-POISONING

Some persons are seriously affected by this developer, while others experience no inconvenience whatever in using it. If the hands become sore, with itching, inflammation, swelling, or peeling off of dry skin, metol should be discontinued and another agent used instead. The following ointment will be beneficial:

Ichthyol	1	part
Lanoline	2	parts
Vaseline	3	"
Boracic acid	4	"

EIKONOGEN FOR PORTRAITURE

Eikonogen, one of the so-called soft-working developers, because it tends to produce negatives free from excessive contrasts, is exceptionally fine for portraiture. A satisfactory formula is as follows:

A

Sodium sulphite	350 grains
Eikonogen	110 "
Water	10 ounces

B

Potassium carbonate	300 grains
Water	10 ounces

Use equal parts of A and B for ordinary development. Eikonogen is excellent for stand-development, for which purpose it should be diluted with from six to ten times its volume of water, according to the rapidity with which it is desired that development should take place.

HOW TO DEVELOP MOONLIGHT EFFECTS

By "moonlight" effects, in this connection, are meant views including clouds slightly obscuring the sun. It will be seen, therefore, that a somewhat thin negative having a fair amount of detail and density in the high-lights and but little in the shadows is required. To produce this result, commence development in a normal solution containing two or three grains of potassium bromide to the ounce of developer. This brings up the extreme high-lights before producing detail. When this is accomplished, transfer the plate to another tray containing normal developer diluted with twice its volume of water and containing no bromide. This solution will bring out as much detail as desired, but too much will ruin the moonlight effect.

USING STALE PLATES

Photographische Welt recently stated that plates that have been allowed to deteriorate by long keeping, and show marginal fog, are not utterly ruined, but may be used provided a long exposure is given and considerable soluble bromide is placed in the developer. This idea is not new, although it may be to some of our readers.

BROAD EFFECTS BY RETOUCHING

Very pleasing broad effects in printing may be obtained by covering the glass side of a negative with tissue-paper and working upon it with lead-pencils. In order that the tissue-paper may dry perfectly flat, it should be placed between two pieces of damp blotting-paper until it becomes somewhat limp. Place the moist tissue — a trifle larger over than the negative — on a sheet of clean paper, lay the negative on it, glass side down, apply a narrow line of paste around the edges of the film side and turn the edges of the tissue up on to the paste, laying a sheet of paper above all while rubbing into contact with the fingers. When dry, the tissue will be tightly stretched and may be worked upon with soft pencils and leather stumps, the more transparent parts being secured by applying with a sable brush a solution composed of one part Canada balsam to two parts turpentine. Very original, sketchy and artistic results may be obtained in this way. If desired, ground-glass varnish may be used instead of tissue-paper.

SOFT RESULTS FROM CONTRASTY SUBJECTS

Just what course to pursue when extreme contrasts present themselves, such as a woman's white dress against a man's dark clothes in a group portrait, is a frequent problem to the average amateur. Although different opinions prevail regarding the treatment of such subjects, probably the best method is to give a long enough exposure for the dark material, and develop in a very dilute solution, which will bring out all possible detail before much density has been obtained. This method will produce a flat negative without much contrast. If more accentuated high-lights are thought advisable, the plate may be placed for a brief period only in a normal developer, considerably restrained with potassium bromide. Longer immersion in this solution will cause chalkiness. Halation must be avoided in this work, and a backed plate should be used.

CHANGING P. O. P. INTO GASLIGHT PAPER

When the amateur photographer has only some P. O. P. and wishes to make a few prints in the evening, it is an easy matter to change it into the gaslight variety by converting the soluble silver salts into a mixture of silver haloids having a predominance of silver bromide. To accomplish this, float the paper for five minutes on the ordinary ten per cent solution of potassium bromide diluted with twice its volume of water, wash for the same length of time and dry. This latter operation requires only a few moments and may be greatly hastened by pressure between hot photographic blotting-papers. Since there is no soluble silver salt to stain the negative, the paper need not be perfectly dry. Paper so treated is not as sensitive as the ordinary bromide paper, but yields very good results.

THE EFFECT OF VARYING PROPORTIONS OF THE MOUNT

A truth which should have increased attention at the hands of photographers in general is that the proportions of length and breadth of the mount affect the apparent length and breadth of the print. Increasing the size of the mount diminishes the apparent size of the print. If the space at each end of the print is increased, the print itself looks smaller, but the horizontal proportions are apparently lengthened. Making the end spaces of the mount narrower than those at the top and bottom increases the apparent vertical dimensions and makes the print look more nearly square. It is seldom pleasing to have both print and mount of the same proportion, as it brings four corner points in a straight line. For the average print a much more pleasing arrangement is to have the mount space at the bottom a little wider than at the top, and the spaces at the ends a little wider than at the bottom.

PHOTOGRAPHERS' ASSOCIATION OF ILLINOIS

THE Ninth Annual Meeting of the Executive Board of the Photographers' Association of Illinois, at Paxton, Ill., Feb. 4, 1907, was called to order by President S. W. Stout.

The resignation of H. C. Lines as Secretary of the Association was received and, upon motion, duly seconded and carried, was accepted.

The President announced that he had appointed, subject to the approval of the Board, W. A. Graber, of the Walinger Company Studio, Chicago, as Secretary.

Upon motion by Mr. Mann, Treasurer, seconded by Mr. Jay, the appointment was confirmed.

The President then read the resignation of Mr. W. M. Henshal as First Vice-President, and, upon motion, duly seconded and carried, it was accepted.

It was then moved and seconded that Mr. Chas. E. Jay be advanced from Second Vice-President to fill the place of First Vice-President, and that Mr. H. B. Medlar, of Woodstock, Ill., be appointed Second Vice-President to fill out the unexpired term. The motion was carried.

The regular business of the meeting was then taken up. After several lengthy discussions regarding the aims and advantages of the photographic convention, it was decided unanimously that the Ninth Annual Convention of the Photographers' Association of Illinois be one of education.

The Secretary was instructed to procure the best talent that the country afforded for a series of lectures to be given during the Convention, aiming to teach those attending not only everything new regarding the business, but also how to make more dollars out of the old business.

A lengthy program, which will be announced later, was then arranged.

A larger number of prizes for exhibits was provided for. A list of these will also be announced later.

The Convention will be held at the Palmer House, Chicago, May 6, 7, 8 and 9, 1907.

All communications regarding space for displays, space for advertising and any other information should be directed to W. A. Graber, Secretary, care The Walinger Co. Studio, 156 Wabash Ave., Chicago, Ill.

RAPID PLATES OF FINE GRAIN

EVERY advance in the speed of plates is of distinct advantage to the photographer, but when increased speed is also accompanied by increase in the fineness of grain, the advantage is many times greater, because finer grain means better detail, value and gradation in both high-lights and shadows. It means better negatives every time. If this is so, don't fail to read the advertisement of the Hammer Dry-Plate Company in this issue.

PHOTO-SECESSION

A DISTINCTIVE and characteristic exhibition of photographs by Miss Alice Boughton, of New York; Mr. William B. Dyer, of Chicago; and Mr. C. Yarnall Abbott, of Philadelphia, was held at the Little Galleries of the Photo-Secession, 291 Fifth Ave., New York City, from February 19 to March 5.

WISCONSIN CAMERA CLUB

THE monthly program of the Wisconsin Camera Club, recently received, showed an especially interesting series of meetings for March. Chief among these was the first meeting of the month, devoted to a talk on composition by Prof. Alexander Mueller. It was the second of a series of five lessons, an interesting and instructive feature of each being the criticism of prints brought by members of the club. The second and third weekly meetings were given up respectively to lantern-slides from Graflex negatives and a demonstration of printing-out papers by Mr. J. A. Hood. The meeting of March 26 marked the opening of the Third American Photographic Salon at the clubrooms, where it will be accessible to the public until April 5, from 10 A.M. until 9 P.M., daily. The club also announces the close of its General Print Contest on May 6.

BISSELL COLLEGE OF PHOTO-ENGRAVING

WE have just received from the above-named institution its comprehensive and attractively printed sixty-four page prospectus for 1907. This interesting volume gives the prospective student some idea of the unequalled facilities for a thorough course which are afforded at the Bissell College. Everything which modern invention and money can secure has at this institution been placed in the hands of practical instructors of national reputation, to make easy the professional career of graduates. It is probable that no other school of its kind in the world places its pupils before the public under such favorable auspices. Any one considering the study of photo-engraving will find it to his advantage to send to Effingham, Ill., for a copy of this prospectus.

ANNOUNCEMENT

THE successful article on "Some Historic Landmark of National Interest" of our literary prize contest, which closed Sept. 1, 1906, is from the pen of Mr. H. Prentiss Parker, of Boston, Mass., and not of Mr. F. A. Fairbanks, as announced erroneously in the February issue of PHOTO-ERA. Mr. Parker, on account of his personal acquaintance with many of the old Boston families, has had exceptional facilities for gathering data regarding the historic mansions of Boston and vicinity, and is generally regarded as an authority on this interesting subject.

NOTES AND NEWS

PHOTOGRAPHERS' ASSOCIATION OF PENNSYLVANIA

The Eleventh Annual Convention of the Photographers' Association of Pennsylvania, including West Virginia, Maryland, Delaware and the District of Columbia, will convene in Williamsport, Penn., April 23, 24 and 25.

It has been the aim of the Executive Board to have an instructive and business convention.

An important feature at this meeting will be a school of photography, conducted by the American Aristotype Co., of Jamestown, N. Y. They will have experts in all branches to demonstrate and explain the latest and best methods of producing the finest kind of fine art photographs.

No photographer within this territory can afford to miss such an opportunity of seeing photographs produced, from the making of the negative to the finished print, by the most modern and up-to-date methods.

The afternoons and evenings will be given to the school of photography, the mornings being taken up by business sessions in which talks and lectures by some of the leading members of the profession will be of practical benefit to all.

The convention is to be held at the Park Hotel, an establishment large enough to accommodate all who may attend, and not only affording spacious parlor and ballroom privileges for the entertainment of guests, but also providing a splendid exhibit-hall for the prize photographs. Full particulars regarding the prize-list, which should interest every member of the Association, may be had upon application to the Secretary, E. E. Seavy, New Castle, Penn.

INDIANA ASSOCIATION OF PHOTOGRAPHERS

The Executive Board of the Indiana Association of Photographers, in connection with the Trustees of the Daguerre Memorial Institute, met at the Denison Hotel, Indianapolis, Jan. 22, 1907, at 10 A.M., all members being present, as follows: W. E. Vilmer, President; Chas. W. Neiswanger, First Vice-President; H. E. Koch, Second Vice-President; J. O. Cammack, Treasurer; J. Frank Cady, Secretary; George J. Parrot, Chas. W. Neiswanger, Geo. Graham Holloway, Trustees.

Former Treasurer Geo. W. Smith was also present, whose books were audited, and committee reported them as correct, and same were turned over to Treasurer-elect J. O. Cammack.

The next convention is to be held at Winona Lake, July 8, 9, 10, 11 and 12. Its features will be of an educational and business nature, and men of the highest ability are being secured to coöperate with the able instructor Mr. W. S. Lively in making the program a profound success. Good music and splendid entertainment may be expected, and the prize offers are also worthy of notice. These may be had of the Secretary, J. Frank Cady, Boonville, Ind.

THE WYNNE INFALLIBLE EXPOSURE METER

It is with pleasure that the editors commend to the attention of the readers of Photo-Era the Wynne Infallible Exposure Meter, advertised elsewhere in these pages. It is a neat little vest-pocket instrument for finding the absolutely correct exposure under all conditions. For a number of years past we have had frequent occasion to make use of the Wynne meter to ascertain exposures difficult to determine from observation, and have always found it "an unerring guide to the correct exposure required for every speed of plate, on every kind of subject and under every condition of light." We unhesitatingly recommend this instrument as an important and necessary part of every serious photographer's outfit. Without it, no worker's equipment is complete.

THE AUTOMOBILE — ITS CARE AND MANAGEMENT

It only remains to sweep away a few popular misconceptions to completely establish the automobile as the latest mechanical advance of civilization, family convenience and pleasure-maker. With laws directed by a strong public sentiment against speed-madness, a dozen machines will be used where now is one. An ordinary runabout is a far safer vehicle for a woman's management than a horse vehicle. The new alcohol fuel will eradicate the foul stenches which have hitherto sadly hurt the sport.

A knowledge of the mechanical principles which govern motor vehicles may easily be obtained from "Homan's Automobile Educator" (Theo. Endel & Co., New York City). In this book, which is admirably and profusely illustrated, the subject is carefully and substantially set forth in a manner which robs it wholly of the terror of technicalities.

A. K. BOURSAULT

The numerous friends of Mr. A. K. Boursault, formerly advertising-manager of the C. P. Goerz American Optical Company, are hereby informed that he now acts in that capacity, in addition to that of business manager, for the *Paris Modes* magazine. We are sure that all who have come in touch with this honest, genial and painstaking gentleman will wish him well in his new position.

RALPH J. GOLSEN SUPPLY COMPANY

The well-known photographic stock house of Ralph J. Golsen, Chicago, announces its incorporation as the Ralph J. Golsen Supply Company, with new quarters at 58 and 60 Wabash Avenue, where a complete line of photographic material, apparatus and lenses of every description will be constantly kept in stock. The new Monster Bargain List of this firm should be in the hands of every photographer.

PRIZES FOR PHOTOGRAPHS THAT PLEASE ADVERTISERS

Of the photographic contests which *Leslie's Weekly* is constantly conducting, one of the most interesting relates to the use of photographs for advertising. The paper has frequent calls for attractive photographs for use in artistic advertisements. For example, it has just supplied a design for the advertisement, in the pages of *Leslie's Weekly*, of a famous breakfast food; and others are sought for autos, popular beverages, hotels, steamship and railroad lines, etc.

To encourage photographers to turn their attention to such subjects, *Leslie's Weekly* makes this prize offer:

For the best photograph suitable for use as an advertisement (preferably for one of the advertisements now running in *Leslie's Weekly*, though other advertising subjects are not barred) we will give a prize of $10; for the second, a prize of $5; those photographs receiving honorable mention will be purchased. The composition of such photographs should be simple; the picture should tell its own story, or, at least, suggest it with very little help from the title which accompanies it. The photographer is expected, however, to attach to each print which he submits (any number may be entered for the competition) such a title, together with the name of the article, business, etc., which the picture is intended to advertise. No copyright photographs can be received.

The competition will be closed on May 15.

Address all contributions in this contest to The Editor, Advertising Photographic Contest, *Leslie's Weekly*, 225 Fourth Avenue, New York City.

BOOK REVIEWS

Little Pilgrimages among Bavarian Inns. By F. R. Fraprie. L. C. Page & Co., Boston. 8vo., $2.00

Under this alluring title the author describes a series of excursions made on foot, by carriage and by train, from the city of Munich, into one of the most romantic parts of Central Europe — the Bavarian Highlands. The scenery here is second only to that of Switzerland, and affords ample opportunities for pen and camera, and Mr. Fraprie has made good use of both. He chronicles his impressions with graphic skill, and with infectious enthusiasm portrays the beauty of those remarkable lakes of Southern Bavaria. Incidentally, the reader is treated to an insight into German peasant-life with its quaint and simple customs. These pilgrimages are extended northward to Augsburg, Nuremburg and Rothenburg, those rare, mediæval towns whose picturesque, architectural features the camera never tires of picturing. Oberammergau, of passion-play fame, is also visited, as well as the neighboring castles of fairylike splendor built by Ludwig II. A number of excellent photographs, apparently by the author, add greatly to the interest of the volume.

Natural-Color Photography, by Dr. E. König; translated from the German with additions, original tests and experiments by E. J. Wall, F. R. P. S. Dawbarn & Ward, London.

Although the principles underlying color photography have been known for more than a quarter of a century, no actually new discoveries have been made for a number of years. The intense interest manifested in this subject to-day by prominent photographers throughout the world is due not to the discovery of a new method, but to improvements in the processes already known. So far-reaching are these innovations that no insurmountable difficulties now stand in the way of natural-color photography. Probably the greatest progress has been made in the finding of new sensitizers, the preparation of light-filters, and, above all, the publication of accurate formulæ for making them.

Thus it may be seen that the second edition of Dr. König's book, translated by Mr. Wall, appears at an opportune time and fills the need of a practical manual for the several color-processes that can be employed by amateurs and others. Photo-mechanical processes are not included, as they necessitate the use of machinery and material which is seldom a part of the equipment of an average photographer. The work is intended as a practical text-book, and for this reason all matters relating to the history of color-photography has been wisely omitted.

Both the direct and indirect methods are taken up — the former briefly, however, as they have but little practical value. As to the larger portion of the book, devoted to the indirect processes, both subtractive and additive, it is probable that no clearer, more concise or practical manual of these methods exists in the English language.

LANTERN-SLIDE MAKING

The lantern-slide season is still with us, and it is very natural, therefore, that the photographic worker should take up printing from negatives developed during the vacation season, and making lantern-slides. We would call the attention of readers who are interested in this work to one of the most practical, as well as the most popular numbers of THE PRACTICAL PHOTOGRAPHER SERIES, "Lantern-Slide Making." This very handy little volume tells, in an interesting way, what a good slide should be, and how it may be obtained. From a suggestion of the kind of negatives required, the reader is taken through the various stages, such as exposure, printing optically and by contact, development, clearing, intensification and reduction, drying, masking, binding, spotting, toning, coloring, combination cloud-printing and many other minor processes. Every photographer should own a copy of this book. Price, 25 cents each, post-paid.

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Contributions relating to photography in any and all of its branches will receive our careful consideration. While not accepting responsibility for unsolicited contributions, we will endeavor to return them if not available, provided return postage is enclosed.

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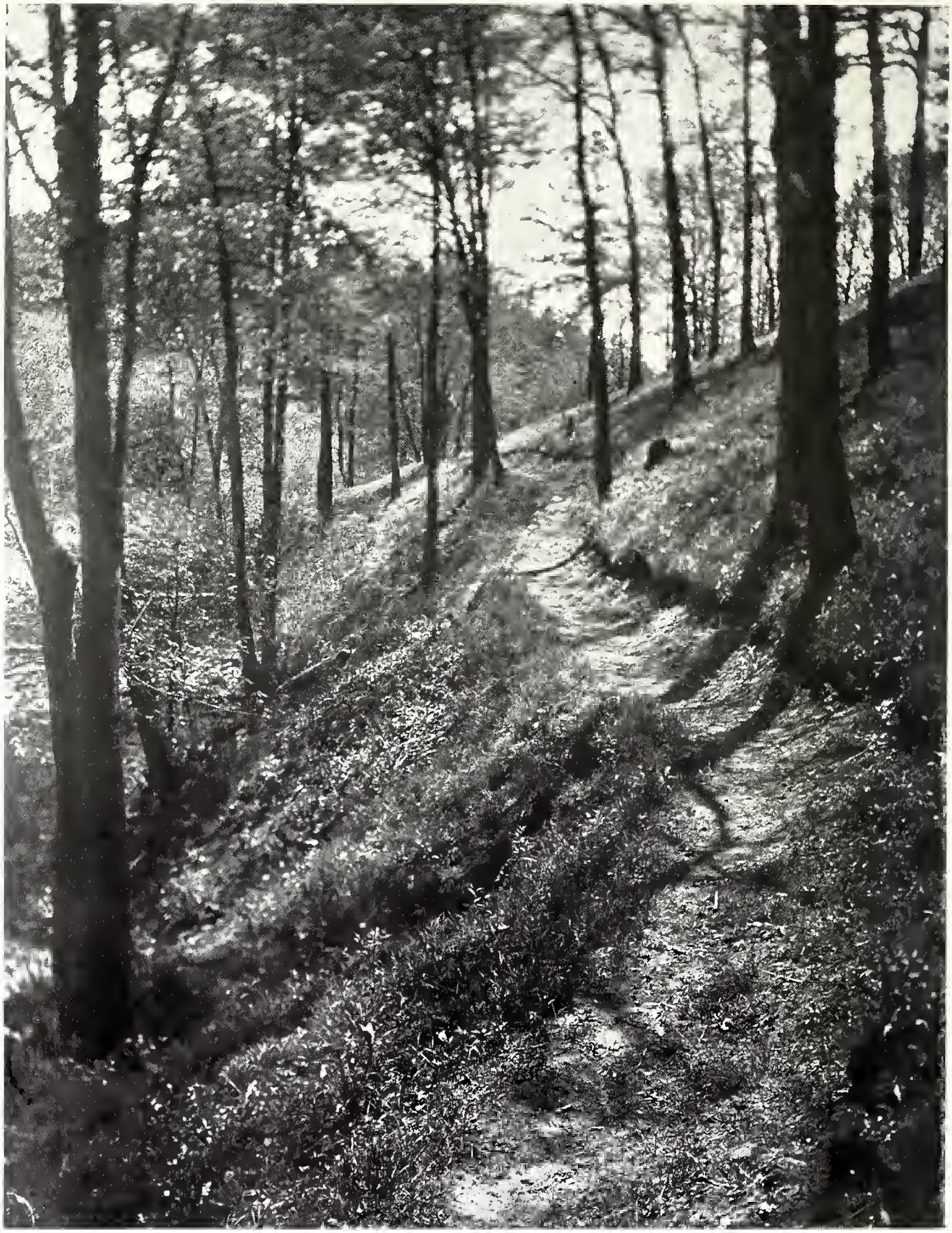


WM. T. KNOX
PATH ALONG THE HILLSIDE

PHOTO - ERA
The American Journal of Photography

VOL. XVIII　　MAY, 1907　　No. 5

THE CAMERA IN JOURNALISM

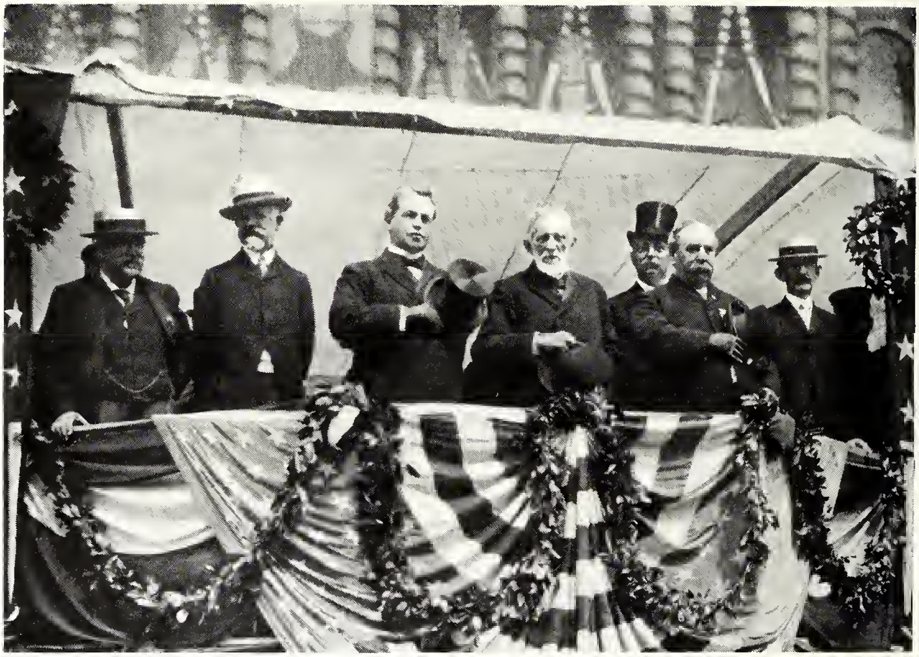
A. J. PHILPOTT

THE newspaper-photographer of to-day, or the man who does "outside" work, may be said to be in a class by himself. He came some fourteen years ago, as a surprise, even to the regular newspaper-men, but he has established himself as a necessity; for the photographer has come to be an essential feature of genuine newspaper-work. So now no first-class newspaper is complete without its photographic and engraving department.

Primarily, a newspaper is, or should be, a record — clear and concise — of the events of the day. Some people get newspapers and magazines terribly mixed in their minds. The one is a momentary record of things and events; the other is a more or less timely record, in which it is possible to make clearer the full import of the daily events. In the newspaper-record you are in a sense a spectator or participant in the event, whether it be a great fire, a public meeting, a court-trial, a baseball or football game, a polo game, a golf game, a boat-race, a horse-race, a flurry on the stock exchange or any of the other matters of record of the day, in which the public is consciously or unconsciously interested. These things are part of the active life of the people, who desire that these things be made clear and visible to them, at the moment when they feel most keenly the full and palpitating power of the events.

This is the basic idea of a newspaper — a genuine newspaper — and this is the main reason why a newspaper is what the people of the community make it, and not what we should always like to have it. It is a record of the actual life of the people at the moment, and it should be borne in mind that the newspaper does n't make that life — it simply records it. In the Sunday or weekly newspaper it is possible to go a few steps into the magazine idea, for the reader has a whole day in which to consider the things of the week. The Sunday newspaper has a whole week in which to prepare and get up its matter; whereas, in the daily newspaper, hours, and even minutes, count. When you consider that a paper like the *Boston Globe* gets out fourteen editions each week-day, you get an idea of the value of minutes and hours in such work.

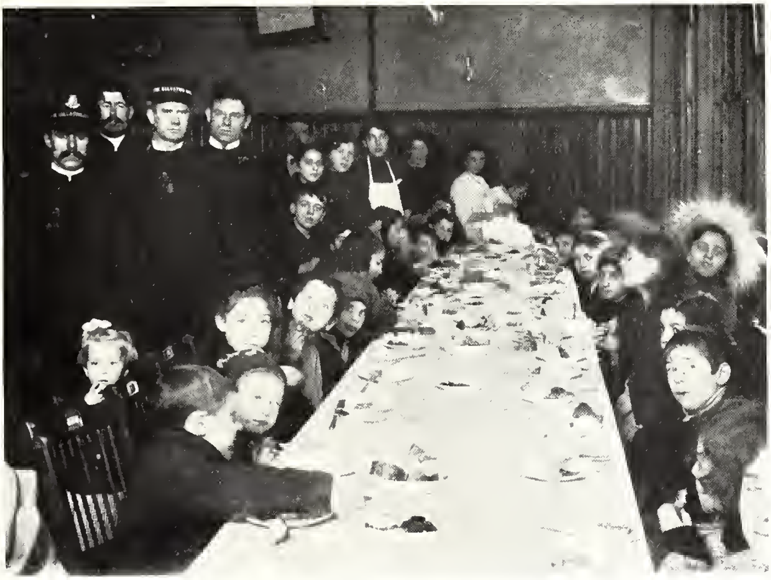
It is n't necessary, then, to further explain why the press-photographer has become of such consequence in the newspaper business. He is a recorder of facts, and facts are what the newspaper requires — what the public requires.



FRANK CHAPMAN A NOTABLE GROUP ON THE REVIEWING-STAND

Aside from his technical knowledge of photography, the press-photographer should have, what the newspaper-writer must possess, an instinct for news, for the most vital and picturesque features of an event. It is his duty to make more vivid to the eye and the mind of the reader the thing which is described -- the moment when the horses, strained to greatest exertion, pass under the wire; the moment when the most daring play is made in the football game and the vast concourse of people is thrilled to the highest pitch of excitement; the moment when the baseball game has reached the crucial point; when the boat-crews are straining every bit of reserve-force after months of training to win the race; when the vast procession is being reviewed; or any of the thousand and one things which, one way or another, enter into the lives of the people every day, week or month of the year.

It goes without saying that such a man must know his business as a photographer very thoroughly. He must be well equipped with the best lenses and the most convenient cameras for all kinds and conditions of work. He can't pose his subjects, nor can he light them; he must take things just as he finds them, and it is "up to him" to be prepared for any and all emergencies. And he must have the kind of nerve that never fails him under excitement. He must learn to regard himself as a spectator of the passing show, rather than as a part of it and its excitements. He cannot be distracted any more than the telegraph-operator, who sits calmly in front of his instrument in the midst of all the excite-



G. H. DAVIS, JR — SALVATION ARMY DINNER IN THE GHETTO

A. L. BELCHER — FIREMEN AT WORK

ment of battle, boat-race, football game or stock exchange, and sends the news over the wire that will cause either joy or sorrow to millions of people.

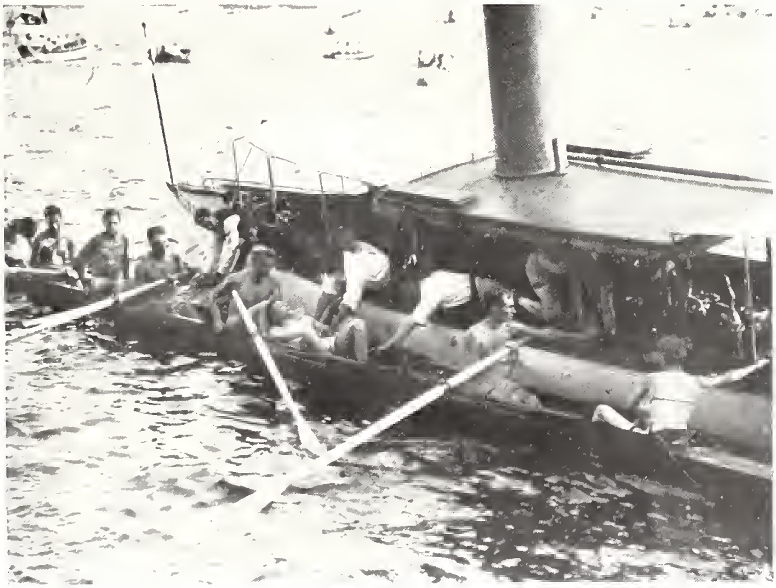
Of course all of us are human, and few men can calmly look on excitement of any kind without being affected more or less by it; but it should never be permitted to distract the attention from the work in hand. Newspaper-photographers have been known to rush out to do a "job" forgetting to take a camera; some have forgotten to remove the cap from the lens; others have made several exposures on one plate; but there is only one known instance where a man took out a roll of films to look at it, in broad daylight, before it was developed. He wanted merely to see if they were all right—and it might be added that it was n't the photographer himself who did this; it was an anxious reporter, who got all that was coming to him a little later from the editor, as the scenes on that film-roll could never be duplicated. They were scenes in Kingston during the recent catastrophe.

So it will be seen that the work of the newspaper-photographer is of a strenuous nature as a general thing, and it is work in which art has to take a second place, at least, although a knowledge of pictorial composition, for instance, is very useful to the press-photographer. After all, it is the most artistic photograph which wins the highest encomiums even in a newspaper-office, where nearly everything is sacrificed to expediency and time.

It might be well to give a few examples of this strenuousness in newspaper-photography that have come under my own personal observation as a newspaper-writer. And, as the *Boston Globe*, with which I am connected, has one of the largest and most complete photographic and engraving departments in the country, the examples may be regarded as typical of the kind of work which has to be done in all great newspaper-offices in an emergency.

The first example that comes to my mind is one that made a very deep impression on me at the time. It was about six months ago, when soon after midnight the telephone rang, announcing that a steamer had sailed into the harbor and was being berthed at one of the wharves, and that this steamer contained the captain and crew of a schooner which had been wrecked off Cape Hatteras. The men had been taken from a raft after several days of intense suffering from storms and hunger. The photographic department was "rung up" and a photographer called for to accompany the writer at once to the steamer. It took about ten minutes to reach the wharf, find the steamer, get the captain and crew of the wrecked schooner on the forward deck and photograph them by flashlight. Then the photographer hurried back to the office, while the writer got the facts of the wreck and interviews with the captain of the steamer and the captain of the schooner. In about a half-hour from the time the telephone first rang I was back in the office, and the photographer had a wet proof from his negative on my desk, for me to put the names of the men underneath their pictures. In half an hour from that time a plate had been engraved and was ready for the press, and in the course of another half-hour the story of the wreck, with the picture of the captain and crew of the schooner, was being rushed in printed

G. H. DAVIS, JR. THE FINISH



G. H. DAVIS, JR. AFTER THE HARVARD-YALE RACE

FRANK COLLIER AN AL FRESCO SHAMPOO

form, as a feature of the news of the day, all over New England, by train and express, so that all readers of the paper would get a clear idea of the men who had survived the wreck, and also an account of the rescue.

In order to make clear what this means, it should be stated that, after the photographic print had been made by the enlargement-process, from the wet negative, a wet-plate negative had to be made from the print through the half-tone screen; this negative had to be printed on the prepared zinc and this latter print etched on the zinc; then routed and cleaned up, to make it ready for the type-form, after which it went into its proper place on the page, or type-form, with the matter that described the event. Then it was stereotyped and the plate was rushed to the pressroom, where it was screwed on the cylinder of one of the great presses, and printed at the rate of 40,000 copies an hour.

E. E. BOND — IN THE ITALIAN QUARTER

It may not be necessary to say that the writer has also to do a little strenuous work under such circumstances, and needs to have his wits about him.

A more recent example of this sort of thing was when news of the terrible *Larchmont* disaster off Block Island was received. Edward A. Parke, one of the coolest and most capable men on the paper in an emergency, was sent at once to Providence, with Hiram Green, a photographer from the office. They were to charter a tug and find, if possible, some sign of either the schooner or the steamer. They went out in the storm into the Sound and found the wrecked schooner, which they photographed, while Parke interviewed some of the survivors and then rushed back to Providence, and wrote a vivid story of the wreck, while Green hurried back to Boston on an express-train with his precious plates, which he developed, thus adding much to the interest of the story that Parke wrote.

Another class of news-photographs which have to be made amidst confusion and excitement are those incident to a train-wreck. When a man like Eugene Buckley, the railroad expert on the *Globe* — a remarkably cool and capable man in an emergency — goes out on a railroad-wreck job, he first ascertains the cause and, if possible, has a photograph made that will give an idea of the cause; then the photographer attends to the more picturesque and gruesome scenes.

It will be seen that in such cases the photographer is largely guided in his work by the reporter; at least, the reporter assists him very materially. But there is a great variety of work in which the photographer must use his best judgment at the moment. There are such occasions on the football-field when the photographer must be alert and wide awake to what is going on and try to picture a momentous play in the game. If his object is the crowd at any of these great events to which people flock, he must seize the moment when the spectators are carried away with the game. If it is a fire, he must get the most comprehensive view. In the case of an outdoor festival or a crowd at the beach, he must secure the most picturesque features. If it is a parade, he should strive to give its strongest characteristics.

A few years ago the Grand Army of the Republic held its annual encampment in Boston and never, perhaps, was there a similar event so vividly portrayed in pictures as was this event by the Boston press. I have sometimes thought that the occasion was epochal in that respect. I treasure, to-day, a photograph of the reviewing-stand in front of the State-house, made by Chapman, of the *Globe*, which is of truly historic importance. The veterans of the Mexican War were passing in carriages, as most of them were too feeble to walk. On the reviewing-stand were Ex-Governor Boutwell, who was Governor of Massachusetts in 1850; Ex-Governor John D. Long; Governor John L. Bates; Lieutenant-Governor Curtis Guild, Jr.; Governor Van Zandt of Iowa; U. S. Senator Henry Cabot Lodge; Ex-Governor Murray Crane; and several other eminent men. It was a notable group of men who had been in one way or another identified with the great events of the country for more than half a century.

It was John W. Butters, now head of the *Globe* photographic department, who some twelve years ago first made the outdoor photograph a striking feature of the news of the day — in Boston, at least. Much the same class of work had been done in New York, Chicago and San Francisco for a year or more before that time. Butters has the news instinct. He has taken photographs of our prominent men, politicians and others, on the streets, which were so striking and vivid that they created a sensation at the time, and examples of such work have not been surpassed.

Another versatile photographer of the *Globe* staff is L. M. Small. Among his achievements is a combination daylight and electric-light photograph showing the crowds at Revere Beach as they appeared at night. It is so cleverly constructed as to defy analysis. Only the initiated understand how the task was accomplished.

E. E. Bond is another genius with the camera in newspaper-work. He is about as cool as Small in an emergency. He has perfected a button-camera, which cannot be seen, and with which he has taken some very remarkable pictures. A few years ago, at the Tucker trial, in East Cambridge, Sheriff Fairbairn got the newspaper-photographers together in his office and warned them that they must not take any more pictures. While warning Bond and talking very earnestly to him, as they looked each other in the eye, Bond took a fine picture of the functionary, which appeared the next day in the *Globe*, much to that individual's amazement.

G. H. Davis, Jr., of the *Globe* has achieved distinction by his daring and highly successful photograph of the great submarine explosion at Portsmouth, N. H., some time ago. Other nervy and skilful photographers are Sears of the *Boston American*, Somers and Harriman of the *Herald*, Luke of the *Post* and Williams of the *Journal*.

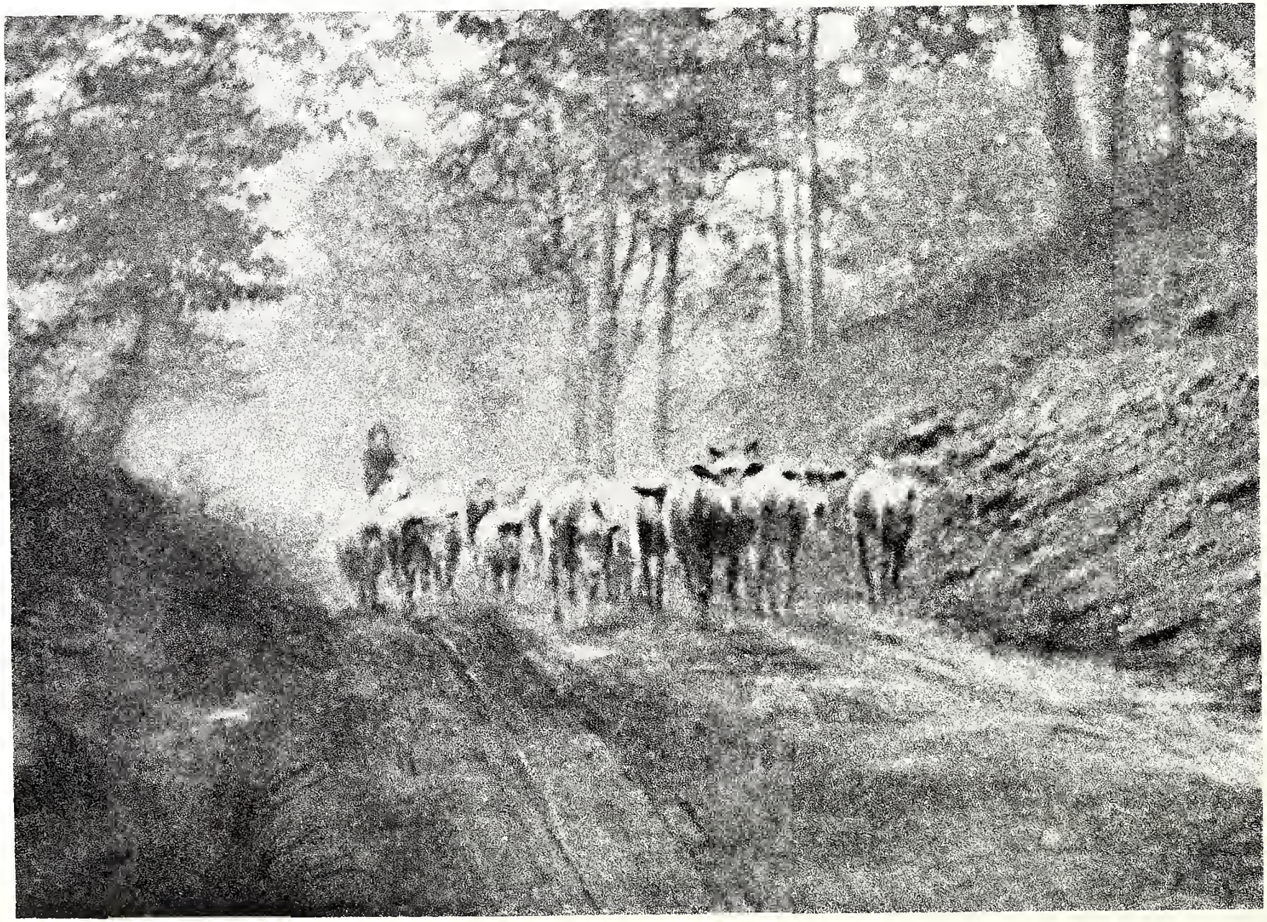
It is possible for anybody who understands photography to do work which will be acceptable to the newspapers, and it is usually work that pays very well. The newspapers will pay any reasonable price for a photograph of a person, or an event, which may be of momentary importance. But those who wish to take up newspaper-photography as a profession should possess a cool nerve and a good general knowledge of photography.

LANDSCAPE PHOTOGRAPHY

A. HORSLEY HINTON

PROBABLY the majority of people will assert that landscape photography is easy — that is to say, much easier than portraiture or figure subjects — a fallacy arising no doubt from the greater ease with which a landscape picture will win public approval, because most people are quite unable to say when a landscape representation is untrue, whereas they readily recognize less glaring errors in the portrayal of the human face or figure. The most indifferent representation of a landscape scene will pass muster with the average man. He recognizes certain forms as being intended for trees or mountains. He could do as much with a child's drawing, but as to whether such forms are really *like* trees and mountains — true in detail and in their relative tones — he is either oblivious or incapable of saying, his knowledge of nature out-of-doors being of a superficial and general kind. But if in the portrayal of a human figure the limbs are made too long or too short, he detects the error at once. Yet it is not too much to say that he constantly accepts landscape pictures in which are inaccuracies as great as though the human figure were depicted with six limbs instead of four, or a black face instead of a pale one.

Falsities.— Witness how, until comparatively recent times, many people accepted without question photographs of landscape with the sky left out, that is with the sky represented by a vacancy of white paper, and still remain content with glorious green foliage reproduced with inky blackness or distances robbed of all their mystery of gray atmosphere. Of course, if these things are of no importance, then landscape pictures of such an order are easy enough; but gradually popular taste is being cultivated to a truer perception of nature, and taste has very properly become more fastidious. The student who is in earnest and does not quench his desire for the best by saying of anything his camera gives him, "That 's good enough!" will find that landscape photography involves many difficult problems which become harder to solve as his closer and more frequent observation makes him more perfectly acquainted with nature.



R. J. HILLIER

A DUSTY DAY

But before going further, let it be clearly understood that even the most irreproachable accuracy to nature does not in landscape or any other class of subject cover the whole purpose to which many are desirous of applying photography. Probably the majority of landscape-photographers have as their object, though more or less vaguely defined, the production of something akin to the artists' painting.

Copying Nature.— The photographer not having had the advantage of early artistic training almost invariably shares with the generality of people that deeply-rooted fallacy that the purpose of all pictorial art is to copy nature, and so, in striving to secure absolute fidelity to the original, he unconsciously misses the road which might lead to pictorial or artistic success, and follows a by-path.

Now, while such a knowledge of nature as will enable one to discriminate between truth and untruth, and a skill which gives the power of reproducing truthfully where one so desires, are essential to artistic success, yet something more is needed.

"*Views.*"— This article aims chiefly at giving its readers help and instruction in landscape picture-making as distinguished from the production of simple, recognizable records of landscape views. Indeed, the latter one would hardly expect to find classed as landscape photography, inasmuch as mere landscape views, unless illustrating local flora or the conformation of the land, such as an explorer would produce during his travels, will barely possess sufficient interest to justify existence.

The idea of a landscape picture or photograph is rather the representation of some scene possessing no particular historical or geographical interest. On the contrary, it appeals to the beholder as beautiful, and inspires a desire to perpetuate it in pictorial form, so that not only he himself, but others, may at another time derive therefrom the same pleasure or enjoyment which the original awakened. Hence the science (if one may use the term) of pictorial landscape photography is the knowledge of those principles whereby representation of such a kind may be made.

Picture vs. View.— Within the limits of such an article as the present it is, of course, impossible to treat so wide a subject as this exhaustively, or even to expound at all fully the principles involved; and so for convenience let us consider the landscape *view* and the landscape *picture*, both being produced by photography under the respective significations, *Real* and *Ideal.*

Now it will be found — and no doubt has often come within the experience of the reader — that the photograph of a landscape which seemed beautiful, made in strict accordance with photographic instructions, technically good and even faultlessly accurate as to form, perspective, tone, etc., will prove disappointing when finished. It is real — that is, it is true to the reality — and yet somehow it fails to give the impression of the original. I have here used, almost unwittingly, a term of which more must be said anon (for it is at the root of the problem); namely, the "impression." Put rather roughly, a picture, as distinguished from a topographical view, is the representation of a personal im-

GEORGE ALEXANDER TULIPS

pression rather than of actual facts or realities, and hence a picture is nature idealized; and it is because the development of photography, its processes, and all the appliances and materials employed therein, has been in the direction of producing facsimiles of the real that those practising it without independent motive have made photography appear incapable of artistic expression. They have not known that the picture should express the ideal and have not therefore attempted to express it.

Technical vs. Pictorial.— It would even seem that those whose mission it has been to perfect the means have been guided by a totally different motive from those who elect to use them artistically. To these latter it was essential that they should have the power of faithfully copying the reality, even though

C. J. VON DUEHREN THE CLOCK-TOWER

that be not their chief aim. Indeed, there is the necessity of keeping well in mind the fact that in employing photography for artistic purposes it is not essential to put into practice all those powers with which in striving for realism the makers of the process have endowed it. In other words, when attempting to idealize only just so much of the realistic should be used as may seem desirable.

It will probably at once occur to any one that to attempt to idealize with a method or process whose chief merit is its unerring reality were vain. But while occasional results prove that it is not impossible, obviously this is just one of those difficulties which — not apparent at first — have to be grappled with by the landscape-photographer. First, he must learn to achieve fidelity to nature. He must become intimate with physical facts and know how to reproduce them;

and then, with this knowledge as a foundation, he must discover how best to use it to express his ideas or impressions. I say "discover," implying thereby that there is no fixed course or precise canon; because just as a given scene will impress each individual differently, so probably the method of expressing that personal impression will differ. Perhaps the best that one who would try to teach another can do is to firmly convince him of the necessity of producing or suggesting an ideal aspect of any scene, and making him understand in what manner it departs from the reality on which it is founded.

Technicalities.— Regarding technical consideration, the choice of lens, I think, matters less than some suppose, because the field of view included on the negative plate need not, necessarily, be the field of view retained in the picture.

The Lens.— But since we cannot, as with the freedom of unrestrained natural vision and untrammeled pencil, include in immediate response to the mind more or less of the view, it will be best to carry two or more lenses of different focal length, and use in each case the one which seems best calculated to depict the scene as it impresses us.

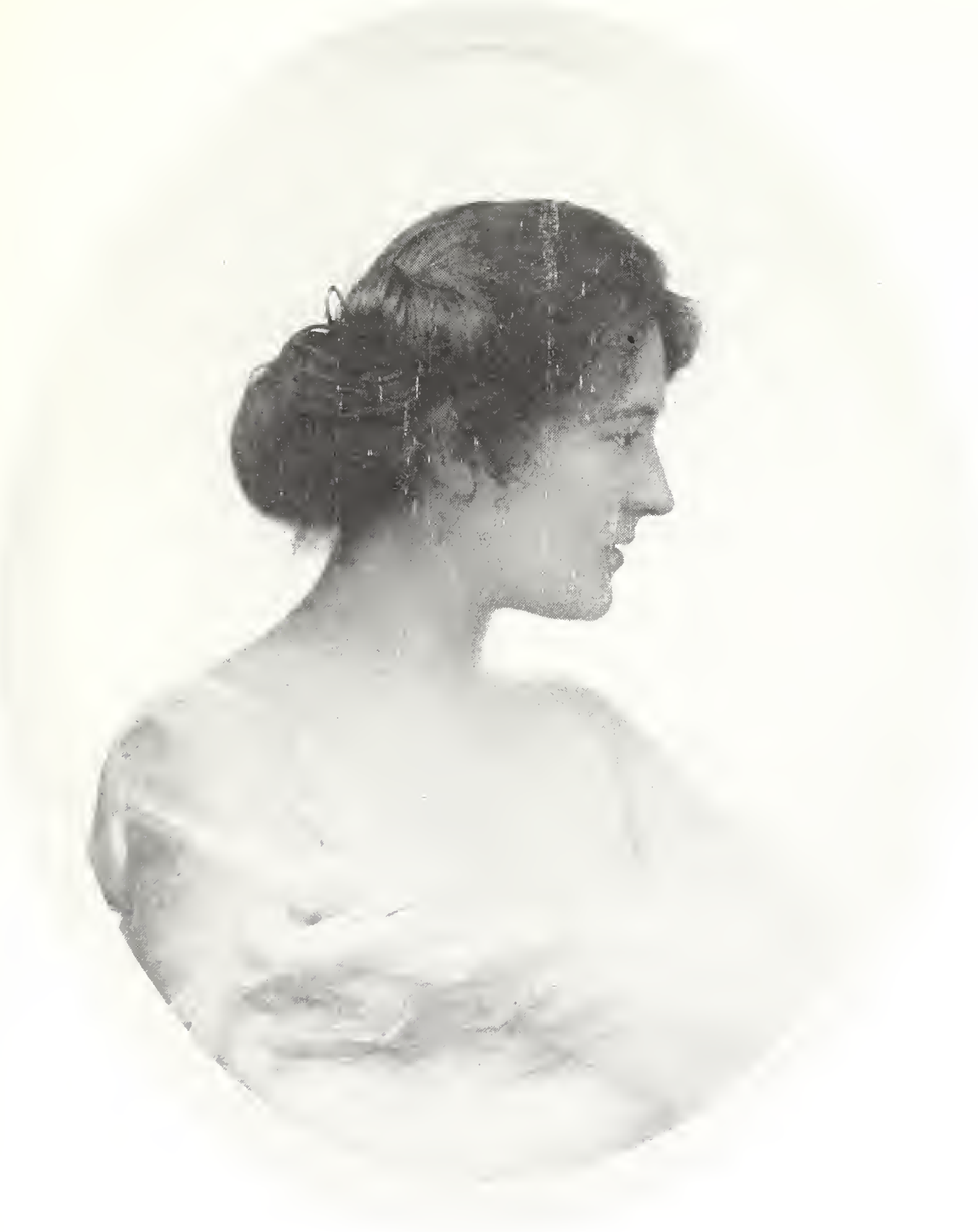
The Plate.— The use of a backed orthochromatic plate and two or more colored screens of various intensities I should regard as absolutely essential. The whole interest and pleasing grouping of light and dark are often due to contrasts of color, and the relative value of such colors can only be translated into black and white by orthochromatic means. Indeed, it will sometimes be necessary to over-correct photography's false rendering of color-values in order to produce the visual impression monochromatically. I should argue in favor of a very rapid plate, provided excessive speed is not attained at the sacrifice of other qualities. To use a slow plate seems like foregoing a possible advantage which modern advancement has placed at our disposal, but which we need not exploit unless we wish.

Backing.— Similarly with regard to "backing." We may not need its aid, but as backing is no disadvantage, and may even unexpectedly assist in securing true relative tones, there seems no reason for not getting any good we can out of it.

Development.— In development, aim at producing a negative as thin as possible, compatible with the proper printing or contrasts. There should be no portion of the negative which will print absolute black, because every point in a landscape, however dark it may seem, does reflect some light. Similarly, there should be no quite opaque portion printing detailless white, because the purest white surfaces in nature possess some gradation and detail.

Printing-Processes.— As regards printing-processes, this is a matter for personal decision, the sole determining factor being whether or not the process used gives the most satisfactory interpretation from the point of view of the individual picture-maker. Permanence has really nothing to do with artistic quality. It is merely a convenient attribute.

Pictorial Aims.— So much for technical considerations, the consideration of the process as far as it may be used to produce an accurate or real representation; the pictorial or artistic considerations are not so easily set forth.



BAKER ART GALLERY
A CLASSIC PROFILE

R. D. BRUCE WINTER AMONG THE HILLS
THIRD AMERICAN PHOTOGRAPHIC SALON

To begin with, we have composition — not because every beautiful landscape is well composed in nature, but because instantly any object attracts our notice and gives us pleasure our mind arranges the other objects around it in imagination, making them subordinate and contributory to that which appeals to us most. The undesirable and destructive object we overlook; we do not notice it, and may almost deceive ourselves into believing it is not there. Thus through our imagination we actually see a more perfect landscape than exists; and if we depict it then and there in a dry, matter-of-fact or realistic manner, the result will prove a disillusionment. First, then, we must break off from our ecstatic imaginings and consider if it be possible to choose a view-point from which the various objects do actually compose so as to approximate to our mental composition. Similarly, in choosing the particular lighting, shape, dimensions and even the exposure, all must be determined by how far it seems likely we shall be able to approach our ideal impression. The direction of the light may throw into strong relief the chief object, or may suppress what is not desired. The form of the picture may emphasize the feeling of loftiness, or of broad expanse. Exposure may tend towards softening or intensifying contrasts. All this does not sound easy — and I commenced by enunciating the fact that it is not — but it may not be impracticable. If it were easy, perhaps it would not be worth doing; but being worth doing, it is worth doing *well*, and the strenuous effort demanded, the ever-receding summit and new heights which each upward step discovers, is the good in it.—*The Practical Photographer, No. 7.*

SMOKE IN PICTORIAL COMPOSITION

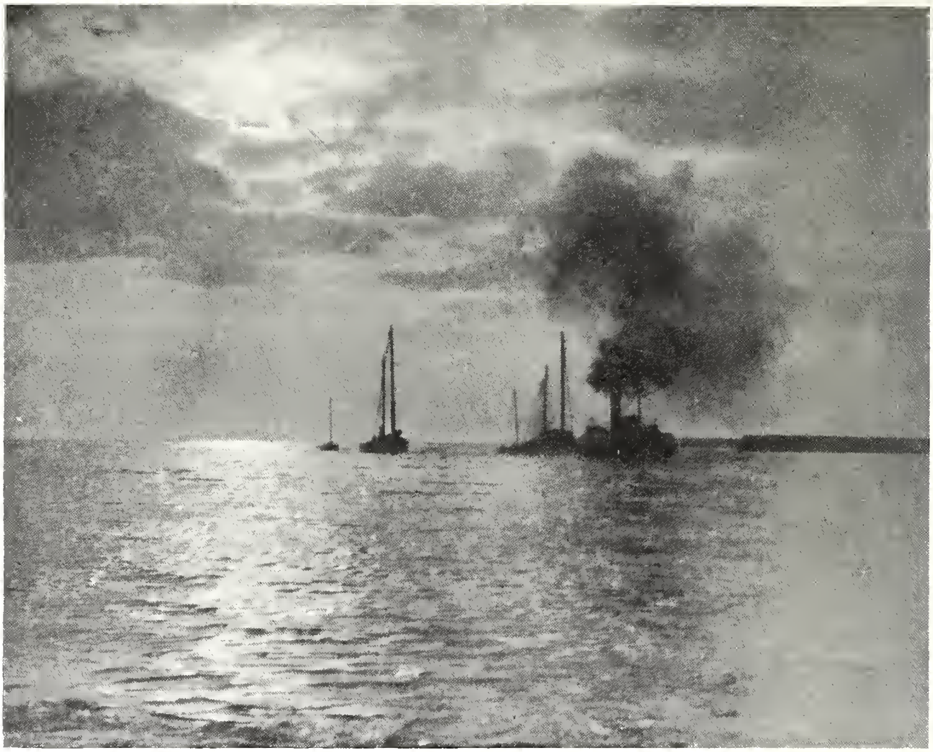
WILLIAM FINDLAY

THE "smoke nuisance" is familiar in most towns, although in process of time it may be mitigated by the almost universal adoption of electric energy as a motive, and gas as a heating, power — unless in the interval some startling discovery is made. From a photographer's point of view, however, this consummation, devoutly to be wished for by most people, may not be viewed with the same equanimity. This may seem a strange statement to make, but that there is some ground for it I shall endeavor to show.

One of the most striking posters exhibited throughout Great Britain last summer was that advertising a Scotch express. It was a reproduction of a photograph taken looking along the railway-track of the Forth Bridge as the train in question was speeding nothwards. The setting of the picture was striking, but the most effective feature was the sense of speed that was conveyed to the mind. And by what means was this done? Simply by the volume of smoke and steam that was being emitted from the funnel of the engine, and carried in wavy forms to the rear, almost obliterating the train.

In an art gallery, recently, I had the pleasure of gazing on a canvas by C. Napier Henry, the great marine painter. The picture was entitled "Torpedoed." It represented a torpedo-boat fleeing from the danger-zone, after having torpedoed one of the enemy's battleships. There is a sense of motion imparted by the curling "bow-wave," it is true, but what catches the eye most quickly is the cloud of black smoke that is belching forth from the stumpy smoke-stacks, and the wonderful reflection of this dark mass upon the shimmering water. In the broadening and dissipating effect in the background can be dimly observed the battleship in her last throes. It is a marvelous picture, with the smoke effect as its most striking feature.

Take Turner's "Fighting Téméraire," a world-famous picture; it would have lost half of its charm had a smokeless sky been entrusted with the sad duty of conveying the obsolete battleship to its last resting-place. Speaking of this picture, it may be permissible to digress somewhat and allow for a charming literary appreciation of this masterpiece. In the Christmas number of the *Woman at Home* reproductions of the favorite pictures of leading novelists appeared. "The Fighting Téméraire" was selected by Annie S. Swan. Of it she says: "I confess to having looked upon most of the masterpieces of the world, but in our own National Gallery I find the picture that appeals oftenest and longest to me. 'The Fighting Téméraire' is a whole allegory of life, whose appeal never fails. . . . The entire scheme of the picture is at once grand, suggestive, inspiring. The sunset, reminiscent of every glory that ever lay on sea or land, the phantom sails in the hazy distance, the nearing port, . . . so smooth may I find the ebbing tide, as tender and beneficent the sunset low, the last port encompassed by such an alluring peace." An appreciation almost as beautiful as the picture itself, is it not?

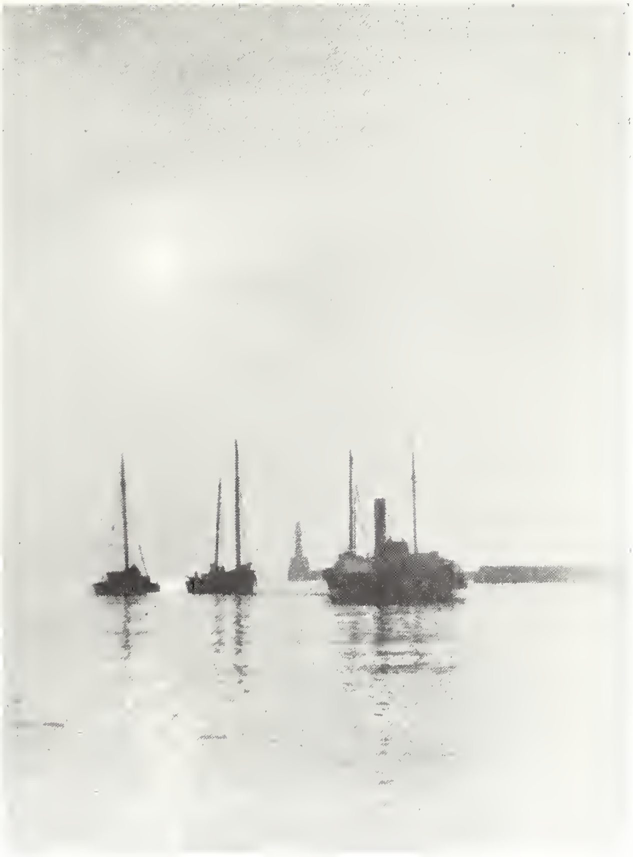


WILLIAM FINDLAY THE REPLICA OF THE "PAINTED SHIP"

In Vicat Cole's and Wyllie's shipping pictures, which never grow stale, a smoke effect is invariably strongly in evidence. Colin Hunter, though devoting more attention to brown-sailed fishing-boats, has in what many people consider his masterpiece — "The Herring-market at Sea"— introduced a most charming balance to the picture by the smoke which is lazily rising from the steamers into the holds of which is being transferred the night's catch.

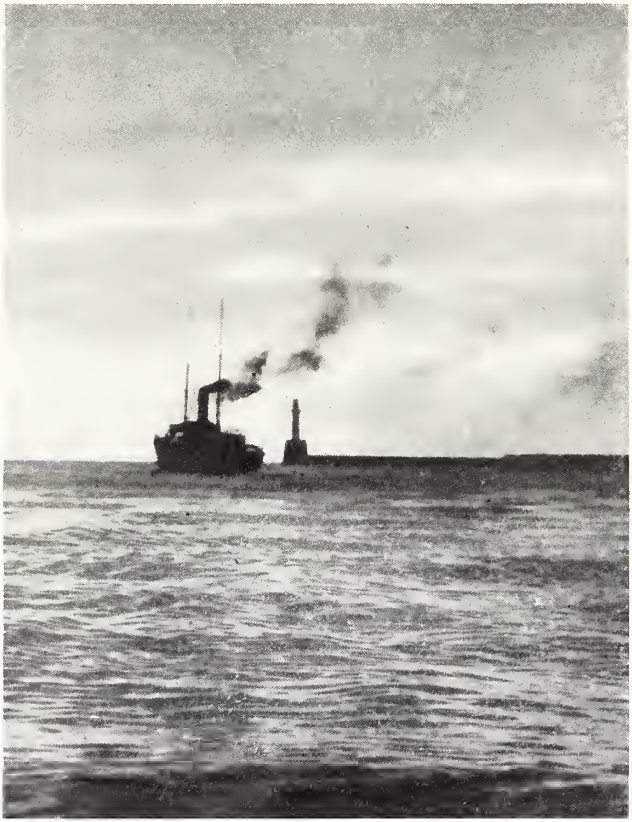
What is applicable to painting in this case applies to photography also, and some personal experiences, with illustrations, may still further go to prove the accuracy of the apparently curious statement in the first paragraph.

What I considered a very effective picture spread itself out before me one morning. The sea was like a mill-pond. A haze overspread the distant water, through which the sun was struggling to gain mastery. Out in the bay were a number of fishing-boats lying becalmed. A tug went out and gathered them as a hen gathers her chickens under her wing. Just as she had passed between the piers the sun was on the point of gaining the mastery and "laid new beams on the face of the waters." A rapid exposure was made, and the idea came into my mind that I had secured a masterpiece. This idea was not dispelled when the



"AS IDLE AS A PAINTED SHIP UPON A PAINTED OCEAN"

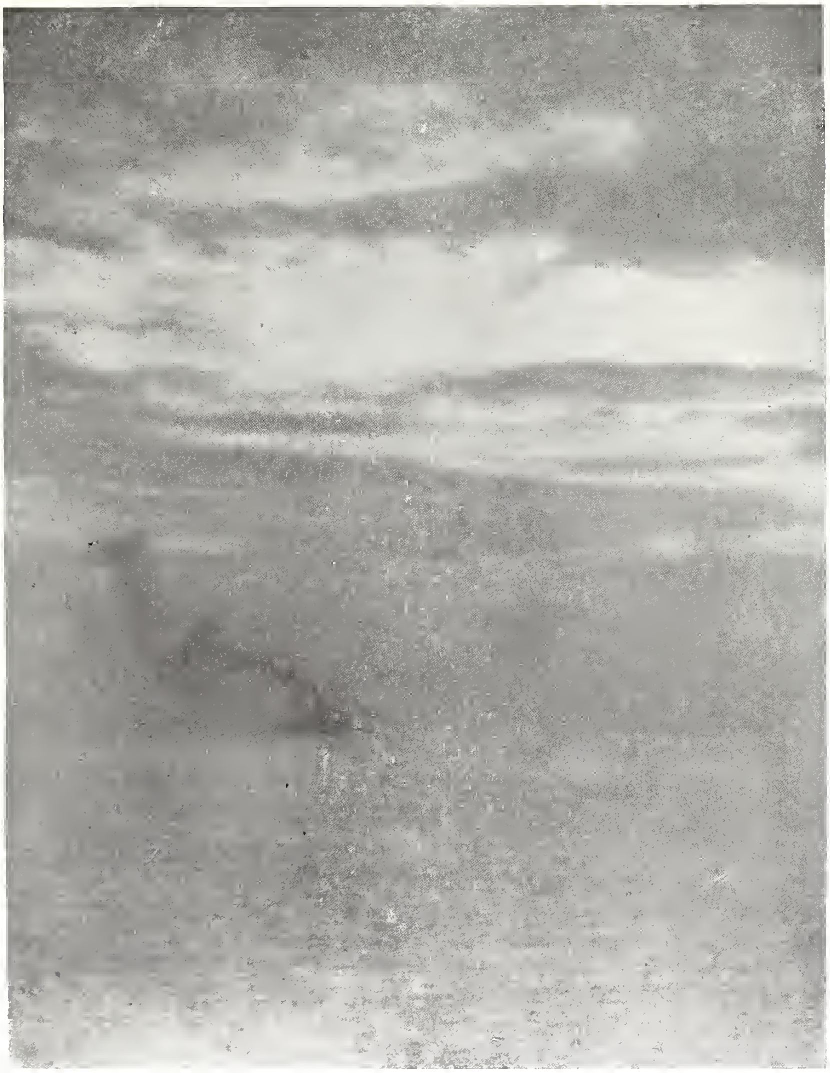
negative was developed, dried and a print taken from it. This was shown to an artist friend. He looked at it critically and said, "It is very pretty; would go nicely to illustrate the lines, 'As idle as a painted ship upon a painted ocean.'" This was an incisive criticism, and the point of it was that the photograph failed to convey the idea of motion. This photograph is reproduced under the lines above quoted, and readers may judge of the truth of this trenchant "appreciation." Some time later, almost an exact replica of this picture, with the addition of a very good cloud effect, was recorded by the camera, but with this marked difference — that a cloud of smoke was being emitted from the funnel of the tug when the exposure was made. And what a difference it makes to the pictorial composition! It breaks up the stiffness in the perpendicular lines apparent in the "painted ship;" it considerably enlarges the principal object of interest, viz., the tug; it introduces an interesting line from sea to sky; and above all, it imparts an abounding sense of motion.



WILLIAM FINDLAY A PRETTY WATER EFFECT

"Before Sunrise" may, like a play without words, go to further illustrate the pictorial value of smoke, and in comparison with "A Pretty Water Effect" another point in marine photography may be noted. The latter was taken from the water's edge, with the camera lowered to within a foot of the water. Sea-pictures ought always to be taken from a low level. I read this hint in a photographic periodical, have tried it, esteem its value and pass it on. I cannot give the technical why and wherefore, but this I have observed: the foreground is much bolder, a vessel appears on the plate considerably larger, and one seems to get a better composition altogether.

One further instance of the pictorial possibilities of smoke may be of interest to those readers whose opportunities of becoming acquainted with the sea are few or none. A gentleman commissioned me to take a view of a factory, to be reproduced as a post-card. This was previous to taking the "painted ship." More by chance than good management a large volume of smoke was being emitted from the tall chimneys, and I had thought to delay until it cleared off a



WILLIAM FINDLAY BEFORE SUNRISE

little. Time pressed, however, and the photograph was taken with the accessory. The card was published, and sold well. Another firm published a card a little later, taken from exactly the same point of view, and though equally well reproduced, one thing was lacking. There was no sense of activity about it. It was taken on a Saturday afternoon, when the mill was shut down, and appeared to be vacant and not the busy hive of industry it is. The one I took suggested power, wealth, activity and all that pertains to factory life. The other failed in this respect. And does not true art lie in suggestion?

IMPRESSIONISM IN LANDSCAPE PHOTOGRAPHY

JAMES C. SAVERY

THE humorist who said, "Impressionism is the art of picturing something that no one has ever seen, in such a way that one would never recognize it again if they did see it," no doubt was prompted to make the statement after some friend had shown him an example. Mind you, I did n't say what kind of an example, for in all probability it was one of those burlesques of nature that some people are prone to thrust upon the public and try to make the best of a bad job by talking "impressionism," however mysterious the meaning of that term might be to them.

I dare say that there are but few who have not had some photographic artist (?) exhibit with many sighs and explanations of difficult workmanship an "Early Morning" or "Through the Fog." We either accepted it meekly, or if we are of a frank disposition, stated our convictions. In the former case we may have tried to convince ourselves that what we saw was "real art" and that heretofore we had been working in ignorance. If we protested, we were immediately characterized as lacking in artistic sense and appreciation, and the picture in question was quickly put away to await the next gullible witness.

Now it is not my purpose to elaborate upon the shortcomings of some of my brothers in this regard, but, rather, to deal to the best of my ability with the beauties of *true* impressionism, and perhaps in the end correct a few of the faults that sometimes make pictures not likenesses, but caricatures of nature.

The term "impressionism" to many seems to convey the meaning of fuzziness, and that if a picture is not fuzzy it is not impressionistic. No more erroneous meaning could be advanced, although I admit that many of the best examples of photographic impressionism that we have to-day are fuzzy; but the mere fact of their being so does not characterize them as being impressionistic.

Impressionism in photography carries with it the same meaning as in painting — namely, the art of picturing nature in an *unusual* mood — and, therefore, is capable of impressing one more than pictures that portray ordinary conditions.

We all, no doubt, have witnessed such scenes, for example, as a landscape clothed in the roseate hues of the setting sun. Such beauty lasts only for a comparatively short length of time, but in those few moments we stop to admire it, we are impressed by the same thing that at other times we have only given a mere cursory glance. Why? Because nature has been presented in a new light, quite unlike its ordinary aspect.

Painters have grasped these opportunities that nature affords them and have given us pictures that, like the scenes they represent, impress us with beauty and admiration. Some of my readers no doubt will say that nature is beautiful at all times, so why make the distinction? True, such is the case; but we must admit there are certain times when nature is more beautiful than others, so why not choose the unusual? This is what discriminates commercial photography from the artistic.

Unlike painters, we are compelled to accept the restrictions of our medium; therefore we must confine ourselves to such and not attempt to overstep them. True it is that color-processes have been perfected by which we can produce *certain* colors, although we cannot say, much as we would like to, that such processes have reached a practical position for the requirements of the artistic photographer. For the present, at least, we are confined to black and white, or variations of one color, such as sepia, etc. Therefore, we should look about, in selecting subjects, to choose nature under the most favorable conditions that we can depict, for, after all, it is not only essential that we picture things after their true likeness, but their *atmosphere* also.

The majority of amateur photographs (I refer to the white-paper-sky kind) portray a likeness of objects, but in no way do they convey the impression of atmosphere. For commercial reproductions they are correct, but as artistic reproductions they are sorely lacking.

Therefore, if we desire to portray atmosphere, let us choose those times when conditions are most favorable, and those which lend themselves to our possibilities. And what are they? you ask. It is those times when nature is in comparative monotone: the grayness of an early morning; the bleakness of winter; the darkening clouds that tell of rain. These are the things that the photographic artist must turn to procure his effects. He is portraying nature as nearly as he can with his medium, for he has chosen the time when he best can do it.

By skilful manipulation pictures can be made to convey the opposite impression of the actual conditions under which they were taken, the most common being the so-called moonlight pictures, the majority of which are taken with the camera pointed toward the sun. These and other effects produced by various means are all very well if they arrive at the proper end.

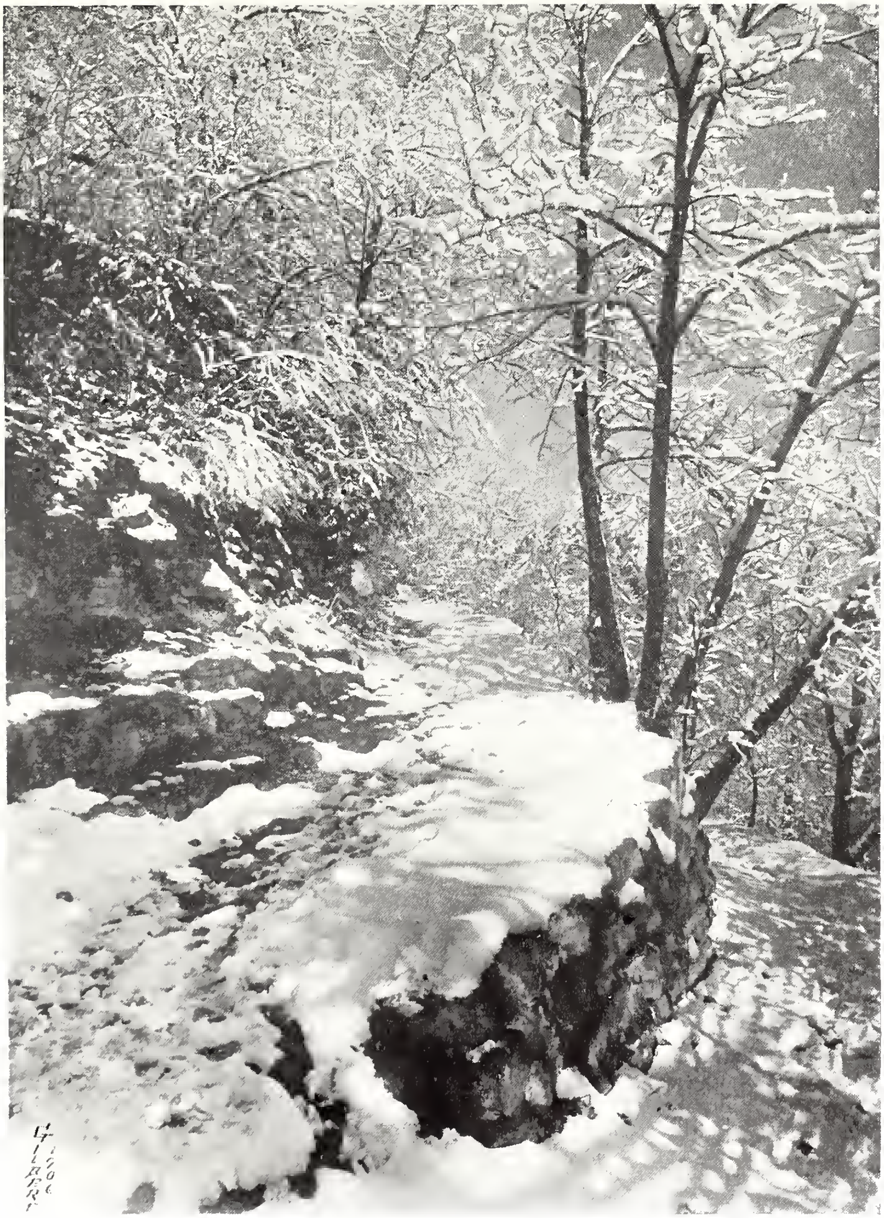
The proper end! That does n't mean fogged negatives, nor does it license you to make a print and call it "Rising Mists." There may be exceptions when such things might pass as the real thing, but let me warn you to be very sure before you perpetrate such a photograph, for in all probability there will be something that smacks of fraud, and in the end I sincerely think it is not worth the chance. Take pictures under the same conditions that you wish to portray. Don't sprinkle the sidewalk with the hose, stand a woman twenty feet away with an upraised umbrella, blow a cloud of smoke before the lens, and call it "After the Rain." The very idea is ridiculous, and the result is usually more so.

If it is your desire to picture such subjects, take them when it *actually rains*. Then you perpetuate a truth, instead of a sham. You may fool some people by trick methods, but if you are not extremely careful your pictures will lack conviction, one of the things most necessary for the success of any photograph.

How many of us have had photographs at one time or another that we conscientiously believed to be fine examples of true art, but, on showing them to some friend, were met with the following remark: "Well, that may be 'high art' but it does n't appeal to me." Appeal! That 's the word exactly. You may think at the time that they do not appreciate your efforts. In a few extreme

J. H. FIELD WINTER SUNSHINE AND MIST

cases this might be true, but in nine cases out of ten there is something wrong with the photograph or it would appeal to them. A person does not necessarily have to be a musician to detect a discord, neither does one have to be an artist to see the faults in a photograph. Please do not infer that I mean one should act upon the advice of everybody who has advice to offer; nevertheless, if the same expressions come from very many people, please do not put the picture in question away with the thought that your ideas are correct and that your friends, whom you believe have no artistic ability, are all wrong. They may not appreciate the technical side of pictures, but every one knows to a certain degree whether or not a picture is true to nature. Strive if possible to ascertain the fault, and try to correct it in future work.



MRS. GEORGE L. GILBERT
SNOW LANDSCAPE

And now something about consistency. I can no better illustrate the meaning of this term than to relate an incident that occurred during a call I once made upon a young man who said he "only dabbled in photography." Among other things talked of was this same subject, impressionism.

"Let me show you," said he, "a little thing I executed a short time ago, entitled 'The River Fog.'"

My dear friends, talk about executing! "Hanging" was none too good for the burlesque of nature that he showed me. It was printed and mounted most artistically, but the picture itself — let me tell you of a few incongruities that made it ridiculous.

In the first place, the whole negative had been fogged during some stage of the photographic process; things on the opposite side of the river were more distinct than those close at hand; and to make matters worse, there happened to be a woman sitting on a park bench reading, and with a lace parasol over her shoulder — as if any woman in her right mind would be out in a dense fog bareheaded and with a lace parasol!

In closing, I cannot but offer a word of thanks to those photographers who have given us so many superb examples of how beautiful impressionism in photography can be made if it is well done.

To those who, perhaps through ignorance, have been following the wrong road, I sincerely hope that the above article will prove helpful. Let us try, to the best of our ability, to picture conditions as they actually exist, and not perpetrate cruel mockeries of so sublime a subject as nature.

C. F. CLARKE YOUNG FISHERS

NEEDLEHOLES IN PAPER

ELWOOD CRANE

TWO numbers of the *Photo-Miniature* — namely, "Pinhole (Lensless) Photography," No. 27, and "Advanced Pinhole Photography," No. 70 — have been devoted to the taking of pictures through a needlehole, with or without the presence of a lens. Any one who wishes to make experiments in this line, however, is likely to be a little dismayed by the accounts of the processes to be gone through in making the needleholes, and by the degree of accuracy which it is recommended should be attained.

ELWOOD CRANE FIGURE I

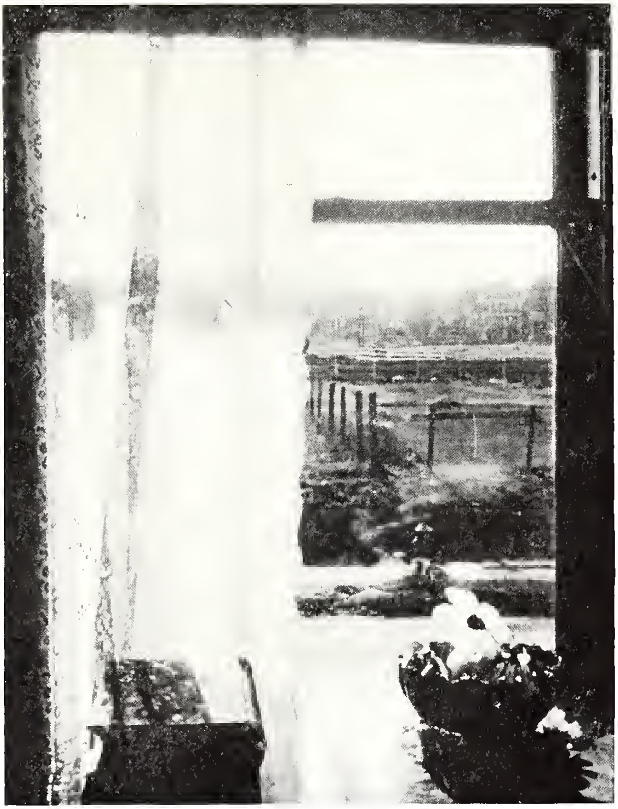
No. 27 advises the use of thin flexible copper or brass; a supplement to No. 27, inserted in No. 46 ("Development Printing-Papers"), tells how to make the holes in "black celluloid or fiberloid, $\frac{1}{50}$ inch gauge (obtainable from dealers in electrical supplies);" and No. 70 gives two rather formidable processes, one employing brass and the other copper or bronze. Now, thin brass, copper, bronze or suitable celluloid are not always easily obtainable; some little dexterity must be acquired in order to make the holes successfully; and in making the holes themselves some little time and application are required.

There is another method, however, which requires for materials only a little opaque black paper such as comes wrapped around dry-plates or gaslight paper, needles of the required size, as No. 11 or No. 12, and a sharp razor. The method is simplicity itself. The paper may show specks of light when held up to the window, but as we need only a small area to be perfectly opaque, this

ELWOOD CRANE FIGURE 2

need not bother us. Select a part of the paper which is free from such specks throughout a circle of, say, at least a quarter of an inch in diameter. Push the needle selected entirely through the centre of this area, twisting it between the thumb and finger. Now look at the hole from the side to which the needle emerged; it will be fringed by an upstanding rim of paper. Lay the black paper upon some flat surface and laying a razor flat upon the paper move it against the upstanding rim of paper with a drawing motion, until the rim is cut half through. Repeat this operation from the other side, completely severing the rim from the rest of the paper, and the needlehole is prepared. It will probably be most convenient to mount the paper upon cardboard with a small circular hole cut out of the latter, in such a way that the needlehole falls in the center of the hole in the cardboard. In this form the apparatus admits of being handled more freely; and the effect of transparent spots outside the quarter-inch circle is eliminated.

The use of black paper ensures the possession of a needlehole of very thin edges. Holes made in metal may have relatively thick edges, and thus suffer a narrowing of the angle of view, and an impairment of the image due to reflection of light thereon from the sides of the hole. It may be objected, however, that a needlehole in paper would not be sufficiently clean cut. This ob-



ELWOOD CRANE FIGURE 3

jection does not seem to have any great weight. The condition of the hole can be told by observing it through a pocket magnifying-glass, and if fibres are seen straying out into the hole they can be cleared away by running through the hole the needle with which it was made. Irregularities project into the hole for a distance which is but a small per cent of its total diameter.

Of the illustrations, the first and third were taken through No. 12 needleholes; the second, the portrait, through a No. 11. The third may be taken to illustrate the absence of halation secured by the use of a needlehole; the picture was taken upon an ordinary Cramer Iso. Instantaneous plate, unbacked. The water in the background of the second picture was rather rough, but of course the long exposure smoothed it out. The exposures for all these pictures were calculated by the rule given in the *Photo-Miniature*, No. 70, which is: find the exposure required by a lens of an aperture of f-value equal to the number of the needlehole multiplied by the extension of the camera in inches; and multiply such exposure by 60 (thus changing seconds to minutes, or minutes to hours). The "number of the needlehole," however, is not the same as the number of

WM. O. MEYER ACROSS THE SNOWY FIELDS

the needle with which it was made. A number 12 needle makes a number 4 hole; number 11 makes a number 3 hole.

For example, picture number 1 was made on November 4, at 11 A.M., in bright sunlight, through a number 4 hole (i.e., made with a number 12 needle), with a camera extension of five and one-half inches. Under these conditions, the exposure indicated for a lens at *f*/22 (U. S. 32), using Kodak film, is about one-third second. Therefore the exposure used was one-third minute, or twenty seconds. The theoretical exposure under these conditions would be about four times as great, since the ration of the area of the aperture of the lens at *f*/22 to the area of the needlehole is about 240, whereas the multiplying factor used above is but 60. However, the theoretical exposure has been found by experiment to be too much. Possibly the factor 60 is, on the other hand, a little too small.

Of course each experimenter would have his own method of adapting a paper needlehole to his camera; but it may not be amiss to describe the apparatus with which the accompanying illustrations were taken. The cover of a pasteboard cylindrical box a little larger than the lens mount was taken, and the inside lined with a strip of blotting-paper to make it fit the lens mount snugly. From the center of this cover a small hole was punched, and the black paper containing the needlehole was pasted into the inside in such a manner that the needlehole fell in the centre of the hole punched in the cover. When a picture was taken the combinations of the lens were unscrewed from the mount and the cover substituted.

The needlehole may be used in conjunction with a lens if desired; and this is often the most convenient way. But it is necessary to see first that the lens is quite free from dust, as all the light is coming from a very small point in front of the lens, and every speck of dust present will throw a shadow upon the plate. As a consequence, the picture will be found unpleasantly spotted unless the lens is quite clean.

HOW TO TELL WHETHER A NEGATIVE IS OVER-EXPOSED OR UNDER-EXPOSED

HERE is one of the greatest problems of all those which confront the beginner in photography — how to tell whether a plate is under-exposed or over-exposed. And like so many more of such questions, it is one that is not capable of being answered offhand. There is no infallible guide, at least as far as the beginner is concerned; because other errors, into which this unfamiliarity with photography may lead him, may mask altogether the indications of the nature of his mistake in exposure.

The text-books say that when a plate in the developer darkens all over very quickly, we may conclude that it is over-exposed, while if the image appears slowly and parts of it long remain white, or rather creamy, that plate is under-exposed. The second observation is more reliable than the first.

There is no doubt that if after a plate has been in the ordinary developer for the usual time required for complete development there are still shadows of any size, which are apparently undarkened by the solution, that plate has not had sufficient exposure. The only possible exception to this is when the developer is being used by some chance at a temperature altogether too low. In such a case it might happen that development was made so slow that the appearance of under-exposure was given when all that was the matter was insufficient development. Such a state of things is not likely to occur often; it certainly would not happen, even in the depth of winter, if the developer were mixed up with water from a jug that had stood an hour or two in an ordinary living-room. Another guarantee against it is to add hot water to cold till the thermometer shows 65° Fahr., which is a good average temperature for development. We might add that if the finished negative is placed film downwards on a sheet of white paper, and the image then looks very bright and clear — almost as if it were a plucky paper print covered with a piece of glass — the negative is certainly under-exposed. When viewed in this way there ought to be a certain deposit even in the deep shadows, although the unexposed edges of the plates ought to seem quite clear. But a plate may have none of these characteristics and yet be under-exposed.

The trouble is that there is an enemy of all negatives called "fog." There are many things that may cause it. The beginner especially may find that he has closed up every avenue against it but one, and it advances by that one, and not only fogs his plates, but fogs him himself. While, then, the state of things described in the last paragraph will show practically beyond a doubt that a plate *is* under-exposed, we are not in a position to say that a plate that does not behave in that way is *not* under-exposed unless we are quite sure that the plate is not fogged.

The chief causes of fog are (1) a dusty or smeary lens; (2) shiny parts inside the camera; (3) an unsafe light for filling the plate-holders, or for developing, or too long an exposure to a "safe" light; (4) an unsuitable or improperly-mixed or impure developer. There are others, but these may suffice. Causes 1 and 2 will show themselves as fog or grayness over the picture, but not over the edges of the plate, which are covered when it is in the camera. Causes 3 and 4 will tend to fog the plate all over, picture and edges.

Pointing out the possible causes of fog should put the photographer on his guard against it. If he hopes to produce good photographs he must make up his mind that his negatives, whether the exposures are right or wrong, shall be free from it, for until he can ensure that, he must be in the dark as to his exposures. For, note: an over-exposed plate, when not fogged, develops up very quickly, darkens rapidly all over, and the picture appears buried in the film. A correctly-exposed plate that is fogged behaves in exactly the same way, and to a very great extent; so also does a fogged under-exposed plate.

So far we have been referring to the appearance of the plate during development. In the enquiry we have printed at the head we are asked, "If the negative is thin, and there is little contrast between light and dark objects, is that a sign of under-exposure?" The answer is, "Not necessarily." Mere thinness or general transparency may be due simply to insufficient development of a correctly-exposed plate. An under-exposed plate looks thin, if it has not been over-developed; indeed, it will look much thinner than a plate that has been correctly-exposed. But if it has been over-developed, as often happens, for the photographer is tempted to go on developing in the hope, never fulfilled, that detail *may* make its appearance in the shadows, then it will look vigorous and not thin, and there will be a great deal of contrast between light and dark objects — far too much, in fact. The unerring sign of under-exposure in such a case is that, while there is great contrast, there is poor gradation. The light parts are very light, the dark parts very dark, but between the two there is not a profusion of half-tone, marking out each detail with its true tone value.

Similarly, on the other hand, a negative which is not thin, that is to say, which looks opaque all over when placed on a sheet of white paper, and when looked through is seen to have plenty of detail everywhere, but yet has no strong contrast when we come to print, is, if not fogged, undoubtedly over-exposed.

We will only add one more word, and that is about fogging. The beginner may very naturally say that if an over-exposed plate and a correctly-exposed but fogged plate both develop up alike, how is he to tell from which fault his plate is suffering? When dealing with individual plates, it is not easy, and might well form the subject for as long a note as this; but when a number of plates are being developed, that have been treated all in the same way as far as the dark-room light, the lens, the camera and the developer are concerned, it is reasonable to assume if any of them give good negatives free from fog, the others are also free from it, and that if they seem fogged, the fog is due to error in exposure.

This answer has run to a far greater length than ever we intended, but the subject is one of such vital importance to those of our readers who have only lately taken up photography, and is, moreover, one which it is quite impossible to answer off-hand, that no apologies for the length of its treatment seem to be needed.— *Photography.*

KATHERINE BINGHAM THE LAST CHAPTER

EDITORIAL DEPARTMENT

ARE WE RETROGRESSING?

ABOUT ten years ago the Double-Anastigmat was placed upon the market, resulting at once in a great improvement in lens-technique. This lens-system was made in response to a long-expressed desire by the amateur worker and, as is well known, owes its origin to the genius of a German optician and to the valuable refractive properties possessed only by Jena glass. Its success was phenomenal, as was to be expected. Nevertheless, there have been for several years past individuals of artistic tendencies who deliberately ignored this type of lens, maintaining that it was a far greater feat to work with old, uncorrected lenses than with Double-Anastigmats. We took pains to investigate the peculiar attitude assumed by these odd sticks, and discovered that they possessed no technical knowledge whatever, only a burning desire to make a picture, regardless by what means. Many of our readers may recall some of these unique experiments, unique in that they were technically so bad as to have no excuse for being. One of these "artists," of strange and forbidding mien, used for his weird figure-compositions a wide-angle lens of very short focus and small aperture, and, even with full opening, of inadequate working-speed in a poorly-lighted room of brief dimensions. Here it was simply a case of ignorance; besides, the exposures, development and printing were done by a hired professional of limited skill. In this manner a new photographic light was born and it was, indeed, "Hail to the Chief!" And professional artists of world-wide celebrity struggled along with lenses of high-speed, correct delineation and artistic modeling. The technique of certain workers of high reputation shows grave faults, due obviously to the use of inadequate lenses. If these portraitists cannot afford an expensive lens, let them look among the camera-exchanges or pawn-shops, where they may pick up excellent types of lenses, which, as to speed and drawing, will serve them better than imperfectly-constructed ones.

ANOTHER CLASS OF OFFENDERS

EVER since the days of Adam there has been a tendency on the part of a portion of mankind to obtain money dishonestly in various ways. Every industry, trade and profession, as well as the arts and crafts, has its proportion of black sheep. Photography, therefore, is no exception. Our art-science offers tempting opportunities of various kinds for devious practices, the most detestable of which, to our mind, is the reckless manipulation of plates and films in development by firms and individuals catering to this class of work. The business of developing and printing for amateurs — increasing, as it is, in due proportion with the constantly-growing army of kodakers — is deemed very profitable, which accounts for the immense number of persons engaged in it. It also forms a feature of every photographic supply-house. Unfortunately, the excellence of the results is by no means uniform, which, assuming the plates or films to be in good condition just preceding development, depends entirely on the skill and vigilance the manipulator brings to his task. Of late years miniature developing-concerns have sprung up in large numbers; they are to be found everywhere; yet relatively few of them deserve to be entrusted with the development of valuable films. The rest — oh that they could be suppressed! — constitute a class of mercenary bunglers that are scarcely better than ordinary confidence-men. They seem to have a predilection for kodakers returning from foreign lands with latent and priceless records of their travels. Eager anticipation of scenes perpetuated by the camera is destined to be followed by disappointment, keen and lasting. Nor is this miserable practice confined to unimportant concerns, most of which cannot afford the cost of skilled employees. One occasionally strays into a photographic supply-house, the pretentious appointments of which, together with a large and busy clerical force, would seem to inspire confidence. Not so. Owing to the employment of an unskilled, inexperienced and untrustworthy working-force in its technical department, a firm in a large American city, not long ago, totally ruined a number of films which contained records of a scientific expedition of extraordinary importance. The unfortunate victim, obtaining no satisfaction from the firm, brought suit. The case was tried in court, with the inevitable result that the camerist was awarded heavy damages, the failures being due entirely to faulty manipulation during and after development. The business of printing and developing — regardless of the scale on which it is carried on — calls for highly competent, intelligent and conscientious workmen. Obviously these cannot be had at a low wage. If a firm is not prepared to furnish uniformly good results from its technical department, it should decline the orders. A house of high repute cannot afford to act otherwise. Prices, generally, are commensurate with the scale of excellence; hence, where inordinately low prices prevail it is well to beware. There are firms of established reputation and responsibility — and we refer here to dealers in photographic goods — whose business integrity is not to be questioned, and whose standard of excellence in every department is of the highest. We find them in all large cities. They merit the support of those who desire only the best, whether it be in the form of a camera, supplies or a demand on their printing or developing department. It has been frequently suggested that, instead of entrusting his exposed films to a stranger, the kodaker develop them himself. This can now be done with astonishing facility. Developing-machines, compact, light and cheap, have been in use for five years past with complete success, even by novices. But the acme of simplicity is kodak tank-development, which, shorn of every conceivable objection, requires no skill whatever. In fine, we trust that our words of disparagement may not be misconstrued. We wish to interfere in no wise with a poor photographer, trying to earn a living by taking in films for development; but when his results fall notoriously below well-known technical standards he ought not to complain of loss of patronage. We still live in the age of the survival of the fittest.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to PHOTO-ERA.

"BIRDS are noisy, bees are humming,
All because the May's a-coming;
All the tongues of nature shout:
Out! from town and cities, out!
Out from every busy street!
Out from every darkened court!
Through the field-paths let your feet
Lingering go in pleasant thought!
Trip it through the shadows, hiding
Down in hollow winding lanes!
Where through leaves the sunshine gliding
Deep with gold the woodland stains!
Out! From cities haste away;
This is earth's great holiday."

The enthusiastic amateur who "hastes away to meet the May" has great pleasures in store. We are all of us more or less nature-lovers, and delight in the feeling of freedom and exhilaration that comes as, after the long winter, we ramble through fields and woods, climb hills and descend into valleys in these first sweet days of spring. To the amateur this feeling is intensified, for it gives him the opportunity of taking his camera into fresh pastures.

One pursuit which ought to give him special pleasure at this time of the year is the photographing of the wild-flowers. A most charming collection could be made of the pictures of these delicate and beautiful inhabitants of our woods, and a doubly interesting collection if the amateur would at the same time make a picture of the haunts of the special species which he photographs. The arbutus, for instance, would show a wood interior with patches of snow here and there in the hollows; the moccasin-flower would be in some secluded nook safely hidden from all but the flower-lover; while spring beauties would be at the very entrance of the wood, where all might see and enjoy.

It is never too early to prepare for the great holiday of the year — Christmas — and almost every amateur possesses a friend who would appreciate a Christmas token which bore the title "Wild-flowers and Their Haunts" and proved to be a collection of prints made by the hand of the giver. Then think what a delight it would be to prepare such a book, what new beauties it would open one's eyes to, what delightful outings it would make possible!

Flower-studies should be made on orthochromatic plates, thus insuring true color-values as well as obtaining in the picture beautiful gradations of lights and shadows.

In the printing of flower-studies one has a wide scope of papers. Some flowers look best printed on rough paper; others require a smooth paper of fine grain. The color to be preferred is usually the black and white, but occasionally a white flower comes out well on paper of a green tone.

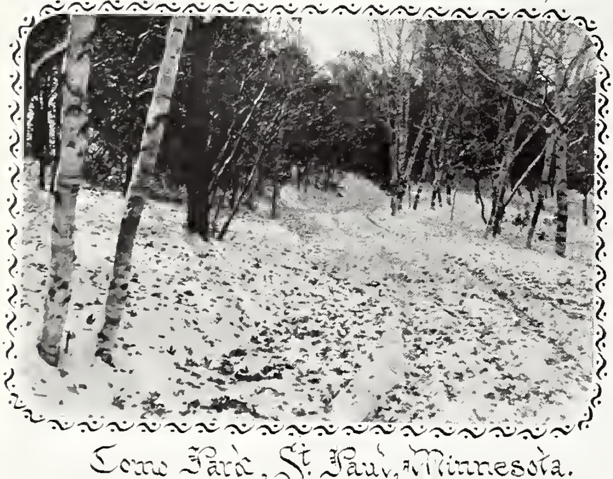
Green paper cannot be obtained commercially, but it is easy to prepare and the color is permanent. Make up a solution of ninety-six grains of nitrate of uranium to four ounces of water and let it stand twenty-four hours, or until dissolved, shaking it occasionally to hasten the process. Float salted paper on this solution till thoroughly wet, and pin up to dry in a dark-room. This is not a printing-out paper, and the time required to make a print from an ordinary negative is ten minutes in bright sunlight. If a dense negative, the printing-time must be doubled. Remove the print from the frame and immerse for two minutes in a tray of warm water, about 125° F. Drain and flood the print with a developer made in the proportion of ten grains of red

1907 JANUARY 1907

Sun	-	6	13	20	27
Mon	-	7	14	21	28
Tue	1	8	15	22	29
Wed	2	9	16	23	30
Thu	3	10	17	24	31
Fri	4	11	18	25	-
Sat	5	12	19	26	-

New every morning
is the love
Our wakening
and
uprising prove;
Through sleep
and darkness
safely
brought,
Restored
to life, and
power,
and
thought.

John Keble.



Como Park, St. Paul, Minnesota.

MRS. CHARLOTTE M. BIRCH
FIRST PRIZE — CALENDAR (JANUARY)

prussiate of potash to each ounce of water. The print will develop to a tint called oxblood red, and as soon as development has been carried far enough take the print from the tray and wash until the whites are cleared. It is next immersed for one or two minutes in a ten per cent solution of nitrate of cobalt, and dried quickly. The print is fixed in a bath made of one-eighth ounce of sulphate of iron and one-half dram of sulphuric acid dissolved in four ounces of water. Rinse well and dry. If dried by artificial heat the color will be a more vivid green.

Photographing birds is a most fascinating pursuit, and while not so simple a matter as photographing flowers, still with a telephoto lens and plenty of patience one will have excellent success. May and June are the best times of year for photographing most birds, as they are then nesting and raising their young.

One may also make good bird-pictures with an ordinary lens if he has the patience to sit still a long, long time. Last summer an amateur was very anxious to obtain a picture of a ground-sparrow on her nest feeding her young, and she sat for three hours her lens focused on the nest, her shutter set ready for the exposure and herself placed as comfortably as possible for a long and what proved a tiresome wait. The bird came near the nest many times and oft, but refused to actually visit it. Finally concluding that what she had surmised was a human being was undoubtedly a dummy, both birds came to the nest, and the amateur, seizing the psychological moment, snapped her shutter, the resulting picture well rewarding her for her long and tedious wait.

A meadow-lark's nest is hard to find, but is a photographic treasure when once discovered. It is so cleverly concealed that even one well versed in the ways of this bird may search for hours and then not find the nest which he is positive is within a certain limit. The bird will not go anywhere in the vicinity of the nest as long as a person is within sight or sound.

Once when driving through the country, my companion, who was country born and bred and a clever naturalist withal, stopped the horse and, pointing over into a meadow we were passing, said he was sure he could find a meadow-lark's nest there. He had just seen the bird fly up from the meadow singing his challenging song of

"You can't see me! You can't see me!"

I had never seen a meadow-lark's nest and was anxious to behold it. The naturalist had carefully noted the spot from which the bird had flown, and, going into the meadow, found the nest very readily; then I too followed through the tall grass and had a peep at the little house. The grass growing over and around the nest had been cunningly woven together so that the little nestlings were in a veritable bower. They stuck up their heads with hungry peeps while the mother bird, far off at the other side of the meadow, uttered the most plaintive cries in the endeavor to attract our attention to herself and away from her brood. Of course we left the nest unmolested, but both of us regretted that we were traveling without a camera.

I sincerely hope that there are no members of the Round Robin Guild who are so short-sighted or so careless as to leave their cameras at home when they go Maying, or on any other summer jaunting.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts or other photographic materials advertised by us, or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in the Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is also free to all, whether subscribers to PHOTO-ERA or not.

SUBJECTS FOR COMPETITION

April—"A Showery Day." Closes May 31.
May—"Nocturnal Photography." Closes June 30.
June—"Interiors, with Figures." Closes July 31.
July—"Landscapes." Closes August 31.
August—"Waterscapes." Closes September 30.
September—"Sunsets." Closes October 31.
October—"Windows and Doorways." Closes November 30.
November—"Genre Studies." Closes December 31.
December—"Home Portraiture." Closes January 31.

AWARDS — CALENDAR

First prize: Mrs. Charlotte M. Birch.
Second prize: R. C. Bay.
Third prize: Harry D. Williar.
Honorable Mention: Jean M. Hutchinson.

THE HYDROMETER TEST

Formulæ often call for solutions which shall have so many grains to the liquid ounce by hydrometer test. This formidable statement is often very puzzling to the amateur, who perhaps does not know a hydrometer when he sees one, or, if he does, may not understand its use.

For very particular work the use of a hydrometer for determining the specific gravity of liquids is to be recommended, but for the average solution the amounts given in the directions will work all right without going to the trouble of testing them.

It is well, however, for one to understand the use of a hydrometer, and then when it is necessary to use one the knowledge will be at once available.

The common hydrometer for testing liquids is made of glass. It has a large, hollow bulb, and below that a smaller bulb which is weighted with mercury to make the instrument stand upright in the liquid. The hollow bulb is surmounted by a hollow glass stem, which is graduated, the division being usually marked on a slip of paper and enclosed in the stem.

Suppose you were testing a solution of hypo. You place the solution in a glass jar and put the hydrometer into it. Suppose it sinks until the surface of the liquid is even with the number 20 on the stem. That shows that the solution contains twenty grains of the chemical to one ounce of water. A formula calls for a certain strength hydrometer test. Dissolve in an ounce of the liquid the number of grains called for, then test it with the hydrometer to see if the amount is correct. If not enough, add more of the chemical; if too strong, add water until the mark on the tube shows that the solution is correct.

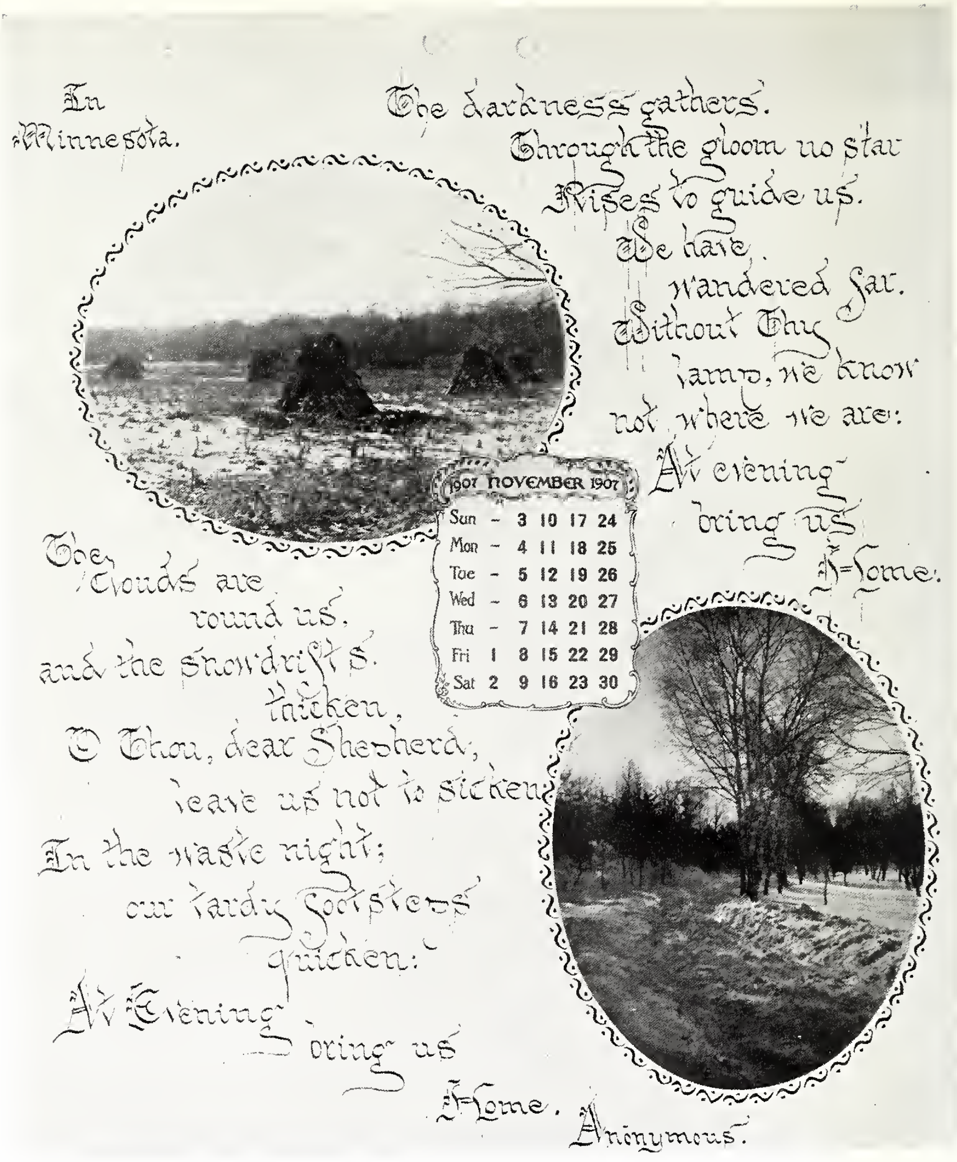
With each hydrometer the manufacturers supply a table of corrections, which assists materially in making strictly correct calculations.

The price of a hydrometer correct enough for ordinary purposes is twenty-five cents. If one wishes a test tube with it, the two cost thirty-eight cents.

ANSWERS TO CORRESPONDENTS

C. M. BIRCH.—The design for calendar which you submitted is very interesting, and has been entered with the pictures sent for this special contest, which promises to bring out many unique ideas, as does also the contest in picture postals, just closed. We are glad you have submitted prints in this contest also.

H. C. PRATT.—To keep developers in stock solution without oxidizing, as soon as the quantity needed has been taken from the bottle, recork and pour melted paraffin wax over the cork. This will exclude the air, and it is the air which causes the solution to oxidize and discolor. See June issue for formula for coloring bromide prints sepia tone. Buy the ready prepared solution for sensitizing postals in black and white. You can also buy the heavy platinum paper and cut it up in postal-card size and make your prints direct. The ready solution is cheap, and makes most satisfactory prints. You can buy stock for postal-cards of any wholesale dealer in papers. Water-color paper, heavy weight, is a good medium for postal-cards. In preparing your own postal-cards you must not forget that the postal



In
Minnesota.

The darkness gathers.
Through the gloom no star
Rises to guide us.
We have,
wandered far.
Without Thy
lamp, we know
not where we are:
At evening
bring us
Home.

The
clouds are
round us,
and the snowdrifts
thicken,
O Thou, dear Shepherd,
leave us not to sicken
In the waste night;
our tardy footsteps
quicken:
At Evening
bring us
Home.
Anonymous.

1907 NOVEMBER 1907

Sun	–	3	10	17	24
Mon	–	4	11	18	25
Tue	–	5	12	19	26
Wed	–	6	13	20	27
Thu	–	7	14	21	28
Fri	1	8	15	22	29
Sat	2	9	16	23	30

MRS. CHARLOTTE M. BIRCH
FIRST PRIZE — CALENDAR (NOVEMBER)

regulations require that the side of the card on which the address is written must also bear the name "Post Card" or "Postal Card." Otherwise you will have to pay two cents for sending it by mail. The words may be either written or printed.

J. B. D.— There is no way by which a gum print may be made in 8 x 10 size from a 4 x 5 negative except first making an enlarged negative from the small negative. You could make a bromide print by the enlargement process direct from the negative, but gum prints take so long to print that it would be impossible to get the large print in this way. Sulphite of soda comes in the form of colorless crystals which are slightly prismatic. If the crystals are dim and lusterless it is impure or has lost its strength. The hydrometer is used to test the gravity of liquids, not their impurities.

Karl G.— Hereafter Photo-Era will appear about the twenty-fifth of each month preceding the date. The publishers have been making heroic efforts to get the date of publication back to its former time, and have succeeded in so doing. We shall be very glad to book your subscription beginning with the current number. See our special combination offers with other magazines.

D. S. F.— See this department of June issue for your answer as to Composite Photographs. Many of the answers are too long to include in this space and they have been used as special short articles for the next issue.

Ellen D. S.— I would not advise you to buy the second-hand globe lens. It was once considered an excellent lens for copying or for landscape work, but the modern lenses are far superior and do more reliable work. You can buy a modern second-hand lens at a very reasonable price.

Leonard F.— Instead of intensifying your negative, try re-developing it, using pyro and silver. Formulas have been given in recent numbers of Photo-Era. If, however, you have not access to back numbers of the magazine, write again and formula will be published. The print of flowers enclosed is very artistic. It is to be regretted that it arrived after the Flower Competition closed, otherwise it would have stood a fair chance of winning a prize.

G. A. C.— You can make a liquid glue by dissolving the best quality of glue in acetic acid. It takes some little time to dissolve. Break up the glue, put in wide-mouthed bottle and cover with acetic acid. When dissolved it remains in liquid state and is always ready for use.

F. K. Hartke.— Your query is too long to be answered in the space devoted to answers to queries, but you will find in the June issue, under the heading "Solutions for Sensitizing Fabrics," full directions for this process.

A. E. Angier.— The formula for amidol which you desire is made as follows: amidol, forty grains; sulphite of soda crystals, one hundred and eighty grains; water, twenty ounces. This developer does not fog, and gives very rich gradation of tones. It is specially good for under-exposure. It stains the fingers, so it is well to handle the prints with rubber finger-tips. With care in fixing, the results are permanent.

Ernest Roch.— It is the *red* iodide of mercury which you should use for strengthening negatives. The materials for the *Ozobrome* process may be obtained of the Ozotype Co., 1 Weedington Road, Kentish Town, London, England.

H. G. Blackhall.— The lens which you mention is a fine one, and compares most favorably with lenses of higher price and supposedly higher grade. The trouble with your new lens must be in over-exposure. Doubtless it works quicker than the other lens of the same make. Coma is simply spherical aberration, and may be corrected by using a smaller diaphragm.

L. L. More.— The color of your negatives will vary with the kind of developer used. Pyro and ferrous oxalate developers give greenish-gray images which print rapidly, and the prints are of fine quality. Metol, hydrochinon, amidol, edinol and this class of developers give gray-black negatives which print well and quickly. All negatives are to be preferred with soft high-lights in portrait-photography. Harsh contrasts in portrait-work are very unpleasant to the eye, and not at all artistic.

The Crucible

A GRAPHIC METHOD OF MARKING FOCUSING-SCALES

The ordinary methods of marking focusing-scales are somewhat unsatisfactory when a scale showing a fairly close series of distances is required. It is seldom possible to mark more than a few near distances by actual tests in the camera, while any method of calculation gives a series of small dimensions in fractions of an inch which cannot be readily set out. Perhaps the most usual way is to ascertain the infinity mark, and also the scale mark for some near distance, and then arithmetically divide the space between these two marks by observing the rule that scale distances from the infinity mark to different divisions are inversely proportional to the distances they represent. Under this rule a division half way from the infinity mark to the five-foot mark represents ten feet, while another at a third of the distance represents fifteen feet, and so on. This method has the defect that it only enables one easily to arrive at marks representing certain distances. Thus, in the case assumed, a mark representing any simple multiple of five feet will be readily arrived at, while other distances that are not simple multiples are not easily allowed for. It seems, however, to have hitherto escaped notice that there is a very simple geometrical solution of the problem, and that the space on the scale between the infinity mark and any other mark representing a near distance can easily be so divided as to represent any required distance in feet, or even fractions of feet. The method is quite accurate in principle, and any error that exists can only be due to peculiarities of the lens. The procedure is as follows:

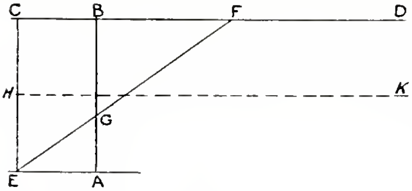


Fig. 1.

First ascertain the infinity mark by focusing on a distant object. If the distance is five hundred times the square of the focal length, the infinity mark can be fixed within one five-hundredth of an inch of its true position. Next ascertain the extension of the camera beyond the infinity mark when focusing on an object at some definite small distance from the front principal focus of the lens; say, for example, five feet. This gives the scale length from the mark representing infinity to that representing a distance of five feet. Let this scale length be represented by the line A B in Fig. 1, A being the infinity mark and B the five-foot mark. Through B and at right angles to A B draw the straight line C B D. Then take any convenient scale of feet (a small scale, such as one-eighth inch or one-sixteenth inch to the foot), is best, and from B to C set off a distance of five feet, which is the distance represented at B. In the figure, B C equals five feet on the scale of feet. Next from C draw C E parallel to B A, and from A draw A E parallel to C B D. These two lines intersect in E, and they complete the geometrical construction. Now suppose we wish to put a mark on the scale A B representing a distance of, say, fourteen feet. From C set out along the line C B D a distance, C F, equal to fourteen feet by scale, and join E F. The line E F cuts A B in G, which is the position on the focusing-scale of the mark representing fourteen feet. It is thus possible to represent any distance whatever, within reason, on the focusing-scale A B, and distances less than five feet can be shown if A B is produced.

If very long distances are required, it is most convenient to set them out, not on C D, but on a parallel line, *H K*, half way between C D and A E. In this case, if a one-eighth scale is used for C D a one-sixteenth scale should be used along the new line, *H K*, all measurements being made from *H*. If, however, two scales are not available, one may be used, the distances being halved along *H K*. For example, suppose we wish to mark the focusing-scale for forty feet. If C D is not long enough to permit a distance of forty feet to be set out along it with a one-eighth scale, we can either set out forty feet on *H K* with a one-sixteenth scale or twenty feet on the same line with the one-eighth scale.

The advantages of this method of dividing a focusing-scale are obvious. There are no troublesome calculations, and one is absolutely unfettered in the choice of distances, as any one distance can be shown just as easily and accurately as any other distance.

By a slight modification, a diagram serving as a universal focusing-scale adaptable to any lens is easily produced. In Fig. 2 the line C D is divided into a scale of equal parts representing feet, and from various selected points on that scale lines are drawn to the point E, which is situated vertically under C. To use this scale, find by test in the camera the length of the fo-

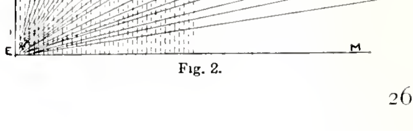


Fig. 2.

cusing-scale between the infinity mark and any other mark representing a near distance of, say, five feet. Then tick off that length on the edge of a strip of paper, and lay the strip on the diagram parallel to E C, and with the infinity mark on the line E M (which is parallel to C D) and the five-foot mark on the line joining E to five feet on the scale C D. One can then tick off on the slip the intersections of the various lines radiating from E, and mark the ticks with the distances given on the scale C D. A supplementary intermediate scale (constructed as before described) gives the distances from forty feet to eighty feet. In making such a diagram as this the exact distance from C to E is of little consequence. If insufficient to admit the paper scale made in the camera, the dimension-lines radiating from E may be produced upwards. The vertical dotted lines are simply to facilitate placing the paper slip parallel to C E.

By a further modification a scale of focal lengths can be added, and then, without any camera test at all, a focusing-scale can in a few moments be ticked off that will fit any particular lens. This scale of focal lengths renders the diagram rather intricate, and introduces very minute divisions. It is extremely convenient for drawing a magnified focusing-scale, but is hardly practical for a scale of actual working size, therefore it is not shown. Moreover, it is generally desirable that the limits of the scale should be settled by actual tests in the camera.—*British Jaurnal of Photography.*

PAPER PRINTS AS TRANSPARENCIES

Dr. Hauberrisser recently pointed out in the *Wiener Mitteilungen* that although most workers use the special plates intended for window and stereoscopic transparencies, a distinct advantage is often gained by squeegeeing a somewhat vigorous paper print to glass and rendering it transparent, after it has dried, by applying a mixture composed of equal parts of castor oil and oil of turpentine. By this means large transparencies are more readily made and at less expense than by the ordinary method; further than this, no backing of ground glass is needed. Mounting the print, film side on the glass, should be carried on under a warm solution of gelatine, one part to twenty-five of water, where the two may be brought into contact. Remove from the solution carefully, to prevent the formation of air-bubbles between print and glass, and squeegee. Blot off all moisture and allow to dry, after which black lead or dry powder colors may be applied with stumps. Canada balsam, thinned with oil of turpentine, is perhaps better than the castor oil mixture for rendering the paper transparent, as it dries very rapidly.

BLACK TONES ON P. O. P.

The tendency toward black tones may be greatly increased by adding uranium nitrate to the usual borax-and-gold toning-solution. Snappy negatives are, however, necessary to obtain the best results by this means. A good formula follows:

Borax	90	grains
Boiling water	24	ounces

When cold, add:

Uranium nitrate	4	grains
Gold chloride (neutralized with chalk)	3	grains

Test the bath for acidity with blue litmus-paper, and, if necessary, neutralize it with sodium carbonate.

Another method is to tone the print to a blue violet in:

Potassium chloro-platinite (1:1,000)	30	parts
Potassium chloride	2	"
Water	1,000	"

and then transfer to

Chloride of gold	2	parts
Mercuric sulphocyanide	20	"
Citric acid	20	"
Water	1,000	"

Finally, wash, fix and wash again thoroughly as usual.

AVOIDING GRAIN IN COPYING

In copying photographs for enlargement, a most unpleasant grain puts in an appearance in the enlarged print unless proper precautions are taken. This is due to shadows cast by upright fibres of the paper. To obviate this trouble, the light thould be diffused upon the print to reduce these shadows to a minimum, and a full exposure should be given to do away with strong contrasts, as far as possible. Further than this, development should be carried on tentatively in a dilute solution. If necessary, increased "snap" may be imparted to the high-lights by a brief immersion in the normal developer, after the detail in the shadows has been well brought out.

WASHING BROMIDE ENLARGEMENTS

Perhaps the best way to wash bromide enlargements is to place them in a large tray of water, turn them over in it several times and then transfer them, one by one, to a second tray of water. Turn them over a number of times in this tray as in the first, handling each print separately, and then replace in the first tray, which has, meantime, been filled with clean water. It will be found that eight such changes of about five minutes each will thoroughly free them from any traces of hypo.

RAPID BLUE-PRINT PAPER

A formula producing ferro-prussiate paper, which will print much more rapidly than the ordinary kind, which takes so long in cloudy weather, may be compounded as follows:

Ferric ammonium citrate (green)	110	grains
Uranic nitrate	35	"
Water	1	ounce

The paper must be coated and dried in the dark, after which it should be printed until a faint image is visible. A five per cent solution of potassium ferricyanide is used as a developer.

NOTES AND NEWS

AMERICAN FEDERATION OF PHOTOGRAPHIC SOCIETIES

At a meeting of the Board of Governors of the American Federation of Photographic Societies, recently held at Pittsburg, Penn., it was decided to abolish the present classification of clubs, to fix the dues of all clubs at $60 per annum and to divide the express charges of the traveling expenses of future salons *pro rata* among the clubs holding the same. Heretofore there have been three classes of clubs, paying three different amounts of dues and entitled to different privileges. The only other change in policy was the abolishment of the prize system which existed in the purchase of pictures chosen by the jury. Hereafter the Federation will purchase no pictures and offer no prizes of any kind.

The report of the treasurer, Wm. H. Phillips, showed the organization to be in good financial condition, with all bills paid and $380.05 in the treasury. W. E. Strayer, of Wilkinsburg, Penn., was appointed secretary to fill the unexpired term of Paul H. Reilly, resigned. The following preliminary jury for the fourth salon was elected: William H. Zerbe, William T. Knox, Frank G. Wood, Dwight A. Davis, William H. Phillips, John Chislett, H. W. Minns, W. S. Cline, R. E. Weeks, D. H. Brookins, R. L. Wadhams, R. L. Sleeth, Jr.

THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK

This association held its Second Annual Meeting in New York City, at the Assembly Hall of the Metropolitan Life Insurance Co., April 3 to 5. In points of attendance and work accomplished this convention of earnest, professional workers was a tremendous success — all due to intelligent, energetic, and united labor. The object of the meeting was the serious and practical consideration of photography as a business, as a profitable, bread-winning enterprise conducted on sound principles, moral and pecuniary.

The men identified with the management of the P. P. S. of N. Y. are the leaders of the craft in New York State, and much of the power and influence which it exercises is due to the brainy, forceful and untiring efforts of its president, Mr. Pirie MacDonald, of New York City. The address of this brilliant worker, delivered at the opening of the convention, was pregnant with helpful and timely suggestions, vigorously expressed, which cannot fail to stimulate the members of the society to work continuously and earnestly for its success, and make it the largest and strongest body of practitioners in this part of the world. In closing his remarkable speech Mr. MacDonald stated that the aim of the society should be the establishment of a healthy rivalry through competition of workmanship, rather than of prices.

The usual feature of a print-exhibit was in keeping with the scheme adopted by the society. There were two hundred prints from as many contributors, and of a good, commercial quality, the fostering of the art, as such, being relegated to a place of secondary importance. Among the foreign exhibitors were professionals from London, Liverpool, Northampton, Tunbridge Wells, Nottingham, Hull, Darlington, Edinburgh, Paris and Hamburg.

ALVIN LANGDON COBURN

Many have ventured across the Atlantic to test the artistic life and atmosphere of European communities, to get into touch with eminent workers, and to put their own abilities to the proof; but none has succeeded so strikingly in these respects as our young friend Alvin Langdon Coburn, who returned to his native heath several weeks ago. In honor of his return home the Photo-Secession exhibited some fifty of his best prints in New York City March 11 to April 10. Although not failing of native appreciation, before he visited Europe the last time, Mr. Coburn did not appear to find an adequate outlet for his quiet, subtle and classic sensibilities reflected in work of manifest originality and charm. To chronicle anew his remarkably brilliant success in the artistic and social world of London is unnecessary. Suffice it to say that the honors that came to him bounteously and unsolicited were won on the basis of absolute merit, although it is freely admitted that he profited not a little by his acquaintance with a well-known English playwright, who, however, lost nothing, to say the least, by his outspoken admiration for the American pictorialist. One thing is certain: dignified publicity is prized as much by the painter and the photographer as it is by the actor and the musician, and Photo-Era rejoices that Mr. Coburn was thus favored. That this young genius, who, while achieving distinction abroad, notably enhanced the standard of American photography, is once more in our midst, is cause for congratulation. It is sincerely to be hoped that cities other than New York will be privileged to inspect his work, which, as recently exhibited, displays his traits as an original and forceful interpreter of human character in a pleasing light.

BOSTON CAMERA CLUB EXHIBITION

The sole camera club of the Hub awoke from its characteristic lethargy and made much of its annual exhibition last month. Eighty-three live prints from twenty-four members is a creditable showing for a club not distinguished for stirring activity in photographic affairs. The artistic standard was not pitched high, and several good workers evinced a marked diminution of their creative powers, a circumstance probably due to lack of incentive or *esprit de corps;* but the quality of workmanship as shown in straight photography was excellent and on a par with the club's best efforts in the past. "Late Afternoon," by F. A. Saunderson, was conspicuous for winning pictorial qualities, depth of atmospheric perspective and harmony and warmth of tone, while the technique — a feature receiving but inadequate attention these days — was illuminating in its temperate application. William H. Wing's only two prints, "Borkshire Road" and "Old Bridge," stamp their author a pictorialist of the first rank. Charles Peabody and J. P. Loud, whose work was shown also at the Old Cambridge Photographic Club's exhibition a few days before, appeared here to better advantage. The former's "The Brook"— a mid-winter scene in which strong masses of black and white were handled with eminent artistic ability — stood out in pleasing contrast to his illogical and offensive "fuzzy" portraits. Does not Mr. Peabody see the handwriting on the wall? Mr. Loud, a professional architect, showed in a number of admirably-chosen Italian *motifs* a thorough knowledge of the technical side of the art. The work of Gurdon R. Fisher, while not on a level of his well-known pictorial standard, evinced an appealing charm — refined expression and exquisite workmanship. Wendell G. Corthell contributed sparingly from his well-filled haversack, "Château Chillon at Dusk" being his best print in evidence. Other contributors worthy of mention were E. R. Andrews — scenes in Italy; Mrs. Walter Griffin — portraits; S. B. Read — surf; F. E. Stevens —"Moonlight in Boston Harbor;" E. H. Washburn — portrait (a Sister of the Sacred Heart); C. W. Riddle —"Bank of Ferns," and F. R. Fraprie —"The River Road."

THE OLD CAMBRIDGE PHOTOGRAPHIC CLUB

The Fourteenth Annual Exhibition by this organization was held at No. 9 Channing Street, Cambridge, March 13 to April 4. One missed contributions by Mary E. Devens and Mrs. Russell, two of the strongest members of the club. The work shown, however, was not noticeable for striking pictorial effect, although a series of sixteen gum-prints by W. Orison Underwood, of picturesque scenes in France, demonstrated the possibility of successfully masking their photographic origin. Bessie S. Underwood, in a number of single-figure and portrait studies, evinced a highly developed artistic sense, in arrangement and lighting, also intimating that technique is of secondary importance. The rest, comprising some 140 prints, were barren of general interest.

ROCHESTER CAMERA CLUB

The fifth annual exhibition of the Rochester Camera Club, which opened March 12, was one that reflects great credit upon the members and their work, for the improvement over the exhibition of last year is most marked.

Among the most striking contributions are: "Haunted House," by H. C. Spurr; "The Spire," by Irwin Taylor; "The Naturalists," by A. S. Osburne; "Twilight in the Pasture," by Wm. H. Shaffer; and a series of views around Gloucester by R. H. Lansing.

Others who contributed excellent work were Adolph F. Bott, F. D. Mundy, Louis Lowenthal, F. W. Brehm, Wm. F. Kress, H. M. Normington, P. S. Paddock, Miss Miriam B. Penfield, N. J. Smith, D. C. Ward, Charles C. Zoller and Mrs. Katherine M. Washburn.

A prominent feature of the exhibition was a loan collection of seven prints by Curtis Bell, of New York City.

A REFLEX CAMERA FOR $10.00

The Premograph — the name of the only camera of the reflecting type ever offered at so low a price — is the star novelty of the Rochester Optical Company, whose most recent catalogue we have examined with pleasure. It will, doubtless, prove the photographic sensation of the year. Its great advantage consists in showing on the ground-glass the subject, in exact size and position of the finished picture. This little wonder is adapted to both instantaneous and time exposures. Another decided novelty by this popular firm is the new Premo View-Finder, which, made of two lenses, gives images exactly proportionate to that appearing on the ground-glass or of the finished picture, when fitted to a Premo having its own lens. Among other desiderata described in this new catalogue we must mention a metal, telescopic tripod — length, closed, $14\frac{1}{2}$ inches; extended, 49 inches — at $4.50; a new camera-case for storing away the loose parts of the outfit; special equipments, fitted with Plastigmat and Zeiss lenses, from $45 up — but the list is so large and inviting that we ask amateurs to send for a copy of the new R. O. C. catalog.

A CAMERA FOR A SUBSCRIPTION

In order to encourage photography among school-teachers — whether attached to public or private schools — we make the following proposition:

To every such teacher, intending to take up photography as a pastime, who will send us a year's subscription to Photo-Era, accompanied by the names and addresses of five teachers, also photographically inclined, we will send, postpaid, One Brownie Camera, No. 2, listed at two dollars.

It is obviously necessary, however, that the teachers, whose names we solicit, have never practised photography before and actually wish to take it up. Furthermore, we require that the above statement on the part of the teacher be founded upon personal knowledge, and that it be endorsed by the principal of the school to which he and the other teachers belong.

NOTES AND NEWS

CONVENTION DATES FOR 1907

ILLINOIS Photographers' Association, Chicago, Ill.; May 7, 8, 9; Secretary, W. A. Graber, 156 Wabash Avenue, Chicago, Ill.

Nebraska Photographers' Association, Lincoln, Neb.; May 22, 23, 24; Secretary, Alfred T. Anderson, Kearney, Neb.

Photographers' Association of Missouri, Excelsior Springs; June 18, 19, 20; Secretary, E. A. Zoff, Washington, Mo.

Indiana Association of Photographers, Winona Lake, Ind.; July 8–12; Secretary, J. Frank Cady, Boonville, Ind.

Photographers' Association of America, Dayton, O.; August 6, 7, 8, 9; Secretary, Frank Medlar, Spencer, Ia.

Photographers' Association of New England, Boston, Mass.; August 26, 27, 28, 29; Secretary, Geo. H. Hastings, 37 Merrimac Street, Haverhill, Mass.

The various secretaries of the above associations will be pleased to give all information in regard to these conventions on application.

PHOTOGRAPHERS' ASSOCIATION OF ILLINOIS

THE Ninth Annual Convention of the Photographers' Association of Illinois, to be held May 6, 7, 8 and 9, at the Palmer House, Chicago, promises to be the banner convention of this Association.

A program vastly superior to any past effort of the Association has been arranged, including lectures and talks by some of the most able men in the profession. Mr. George Graham Holloway, formerly president of the Photographers' Association of America, and one of the Trustees of the Daguerre Memorial Institute, will be present and deliver one of his characteristic talks, while Mr. C. W. Neiswanger, first vice-president of the Indiana Association of Photographers, and a Trustee of the Daguerre Memorial Institute, well known as a writer on both commercial and art sides of photography, will also be on the program. These gentlemen, acting for the Daguerre Memorial Institute, will select from the exhibits such prints as are deemed to possess sufficient merit to adorn the Halls of the Daguerre Memorial Institute. All pictures so selected will be eligible for competition in the diamond medal class offered by the Indiana Association.

LIST OF AWARDS

The following list of prizes has been prepared, but in no case will any prize be awarded unless the rating reaches at least 70 per cent. The officers of the association will not compete.

Grand Portrait Prize. Open to the world. Six portraits, thirteen inches or larger. Award, silver loving-cup. Entrance fee, $3.00.

Class A. Open to all Illinois Photographers. Six portraits, nine inches or larger. First award, gold medal. Second award, silver medallion.

Class B. Open to Illinois cities of 15,000 or less. Twelve portraits, cabinet size or larger. First award, gold medal. Second award, silver medallion.

Class C. Open to Illinois cities of 5,000 or less. Twelve portraits, cabinet size or larger. First award, gold medal. Second award, silver medallion.

Cabinet Class. Open to all Illinois Photographers. Twelve cabinet-size portraits. First award, gold medal. Second award, silver medallion.

Miniature Class. Open to all Illinois Photographers. Twelve miniature portraits, three and three-quarter inches or under. First award, gold medal. Second award, silver medallion.

Special Class. Open to all Illinois Photographers. Twelve baby portraits, cabinet size. Prize selected.

IMPERIAL PLATE PRIZE

Mr. W. A. GRABER, Chicago.

Dear Mr. Graber,— It gives me great pleasure to offer you, as a premium, to be competed for at the coming convention, a handsome cup, the donation of the Imperial Dry-Plate Company, London, which may be competed for by photographers under the following conditions:

Photographs not less than three, nor more than six, of any size up to and including 11 x 14 inches; the prints to be on any paper suitable for showing the half-tones and other good qualities of the negative; each exhibit to be accompanied by at least one original negative.

This cup is to be held by the photographer winning it for one year. To become his property finally, it must be won by the same photographer three times in succession. Should it, however, change hands the second year and be again won the third year by the photographer who first captured it, this will be considered final.

Yours truly, G. GENNERT.

Particulars regarding the entry of exhibits may be had of the secretary, W. A. Graber, 156 Wabash Avenue, Chicago, Ill.

THE ANTHONY AND SCOVILL COMPANY

THIS enterprising concern announces that a new branch office has been opened at St. Louis, Mo., in the Mermod and Jaccard Building, 407 North Broadway. A complete line of photographic supplies, including the popular Ansco cameras, films and Cyko paper, will constantly be kept in stock.

PHOTOGRAPHERS' ASSOCIATION OF CANADA

THE Executive Board of this new organization, at a meeting recently held in Hamilton, Ontario, decided to hold the first annual convention in Toronto on May 29 and 30, at the Victoria Hall. Every effort will be made to encourage the attendance of Canadian photographers, and it is expected that a successful convention will be held.

NOTES AND NEWS

STEREOSCOPIC PHOTOGRAPHY AND THE FRENCH STEREO-CLUB

CONFORMING to its usual custom, the *Stereo-Club Français* of Paris announces its third annual contest of stereograms (stereoscopic views). The affair begins March 15 and concludes Oct. 31, 1907, being open only to members of the club.

Every lover of pictures, particularly those presented in so vivid a manner as skilfully-executed stereoscopic views, must rejoice that this fascinating branch of photography has been revived, and revitalized in so intelligent, painstaking and scientific a manner as practised by members of the French Stereo-Club. Never before has stereoscopic photography received such ardent and devoted consideration as from this admirable organization. PHOTO-ERA frequently receives inquiries regarding works on stereoscopic photography. It is, therefore, with pleasure that it can refer all intereted persons to the *Bulletin du Stereo-Club Français* — an excellently-printed brochure published, bi-monthly, at 51 Rue de Clichy, Paris — now enjoying the fourth year of its existence. The February issue of this publication contains a scientific analysis of stereoscopic vision, illustrated with numerous diagrams.

Incidentally, PHOTO-ERA hopes that interest in stereoscopic photography will increase more rapidly in this country than it has since its revival. There is certainly no lack of light, convenient and beautifully-constructed apparatus at the command of stereo-photographers. New, improved devices for printing also exist. There is, indeed, every possible incentive for workers to engage in this captivating photographic field. Those who know not the positive, enduring charm of a fine stereoscopic transparency miss much of this life's joys.

About thirty years ago a friend of the editor purchased 500 glass stereoscopic views, made by a celebrated Paris firm, at an expense of over $1,000. Arranged in ten revolving stereoscopes — shaped like a small cabinet — placed conveniently in his home at Concord, Mass., these beautiful and realistic representations of famous historical places of the Old World proved a source of recreation and of inestimable educational value to friends and members of his family. It was deemed a rare privilege to be permitted to thus view the glories of Switzerland, the ruins of Rome, the castles of France or the cathedrals of England. These superb views, as perfect today as when they were made, were bequeathed by the owner to the public library of his native town, and are thus accessible to the public.

AN EMBARRASSING QUESTION

AN esteemed subscriber sends us the following conundrum, which we print with due apologies to the workers in a beautiful but exceedingly difficult process.

Q.—When is a photograph not a photograph?
A.—When it is a gum-print.

THE WYNNE METER

"THERE is no question that the greatest difficulty a beginner in photography experiences is in rightly estimating the correct exposure to be given under the varying conditions of Subject, Stop, Speed of Plate and Light-Value.

"In Wynne's 'Infallible' Exposure Meter, by a single movement of a single scale the correct exposure is instantly and simultaneously shown against each stop, from the largest to the smallest."

The above constitutes the first page of the instruction book accompanying this invaluable little watch-like device. Its use is so exceedingly simple that it is difficult to describe — difficult lest one's description fails of being as simple as is the instrument itself.

The sensitive paper in the meter is discolored by exposure to light until it matches a given tint — a matter of seconds outdoors. The number of seconds so required is called the *Actinometer time*. A speed-card accompanying the meter gives the speed of every plate and film. The foregoing is all one need know to understand how

TO CALCULATE THE CORRECT EXPOSURE

Turn the glass carrying the movable scale of the instrument until the Actinometer time in seconds upon the Exposure Scale is opposite the Diaphragm number of the plate. Then the correct exposure in seconds and fractions of seconds will be found simultaneously against each stop, from the largest to the smallest; or, briefly, you set the one scale; it does the rest.

Example:

Plate speed No. F 90 or U. S. 512
Actinometer........................ 4 Seconds
Stop...................... F 16 or U. S. 16
Exposure .... $\frac{1}{8}$ Second

The simplicity of the above becomes very apparent on reference to the cuts of meters as shown in the advertisement of the manufacturers to be found in this issue.

The instrument is of solid nickel and retails for $2.50. It may be had direct from the manufacturers on a fortnight's trial on receipt of price.

"CRUCIBLES; THEIR CARE AND USE"

THE above is the title of a handsome and comprehensive book by John A. Walker, vice-president of the Joseph Dixon Crucible Company, on the subject of graphite crucibles, also known as plumbago or black-lead crucibles.

Mr. Walker is thoroughly fitted by his long years of experience in crucible-making to be an authority on the subject, as he certainly is, and his latest book should be in the hands of every one interested in the melting of the various metals.

The purpose of the book is to instruct users of crucibles as to their proper use, and the dangers of abuse of crucibles.

NOTES AND NEWS

BOOK REVIEWS

Penrose's Pictorial Annual, the Process Year-book, 1906–07. William Gamble, editor. London: A. W. Penrose & Co., Ltd. New York: Tenant & Ward. Price, $2.50.

The current issue of this, the standard publication devoted to photo-mechanical processes, is certainly a record-breaker. In excellence and quality of material — text as well as illustrations — it surpasses any work of its kind ever offered to the public. Its treatment of the art of reproduction is varied and exhaustive, presenting, as it does, in color and monochrome the remarkable stage of technical perfection and beauty attained by the most approved photo-printing processes. The work appeals specially to the progressive photo-engraver and multi-color printer, for no expense has been spared by the publishers in accumulating expert and up-to-date information and offering it in a convincing form to the craft. Besides a number of beautiful and superbly-executed plates,— attesting the manifest superiority of four over three color printing,— the current Process Year-book contains several valuable articles of direct, practical interest to the amateur worker. A half-tone reproduction of a picturesque harvest-field, "A Bounteous Yield," by H. W. Hall, shows a close approach to photogravure in richness and beauty of tonal values.

Das Objectiv, Im Dienste der Photographie. By Dr. Holm. Large octavo cloth, 2 marks (50 cents). Gustav Schmidt, Berlin, W., Germany.

A work devoted exclusively to the practical and intelligent use of the photographic lens is always welcome — Dr. Holm's book more so than any we have met hitherto. The author omits all complex mathematical demonstrations, formulæ, etc., simplifying the subject-matter to a minimum. He points out, in a delightfully lucid manner, the correct and intelligent application of the several types of lenses, showing by numerous, practical illustrations daily mistakes — distorted foreshortening and perspective — made even by workers of world-wide repute. We recommend the volume to every serious-minded worker, who, even without a knowledge of German, will easily understand its many object-lessons, presented in the form of large half-tone plates. The price of the work is remarkably low.

Deutscher Camera-Almanach, für 1907, Jahrbuch der Photographie. By Fritz Loescher. Heavy 8vo., paper, 3.50 marks; cloth, 4.25 marks. Gustav Schmidt, Berlin.

This excellent German year-book appeals forcibly to advanced amateurs. While nearly every department of the art is treated, the artistic spirit of the compiler is delightfully evident. Among the literary contributors are Agnes Warburg, Dr. Bachmann, Carl Weiss, Eduard Nemeczek, Fritz Loescher, Anna Behrendt and others of equal eminence. The volume contains nearly two-hundred half-tones, representing the high art-standards of the German, Scandinavian and English photographic schools.

Hunting Big Game with the Gun and the Kodak. By Wm. S. Thomas. 8vo., cloth, $2. C. P. Putnam's Sons, New York and London.

It presents an exciting narrative of personal experiences in the United States, Canada and Mexico, in which the camera vies with the gun in imparting interest to the story. Camerists longing to indulge in this combination sport may read Mr. Thomas's book with profit; others, the tender-hearted, will find the book — free of blood-curdling details — entertaining and instructive. The author uses the kodak merely as an accessory; otherwise, and with a more suitable, long-distance camera, his achievements would have gained appreciably in technical merit, as he did not lack for opportunities.

"LA FOTOGRAFIA ARTISTICA"

Our esteemed Italian cotemporary, *La Fotografia Artistica*, of Turin, waxes enthusiastic as the time approaches for the opening of the great competitive exhibition to be given under its auspices this month. With commendable enterprise this popular photographic journal has enlisted the active coöperation of the photographic societies of Northern Italy, as well as that of the Italian government and the cities of Rome, Florence, Venice, Genoa and Turin. These municipalities will aid the enterprise in a fitting manner by offering medals to successful contestants. A grand prize cup will be offered by a Belgian photographic firm; also medals and prizes in the shape of valuable lenses and apparatus, donated for the purpose by well-known manufacturers. While these valuable prizes may be competed for by any contributor to the exhibition, the money prize of 1,500 francs—offered by *La Fotografia Artistica* — is open only to subscribers of that periodical. With pardonable pride the editor informs Photo-Era that promises, to visit the exhibition, have been received from France, England, Germany, Holland, Spain, Egypt, the United States and Mexico. The affair, planned, as it appears, on a grand scale, gives promise of proving a brilliant and artistic success. Photo-Era hopes to give its readers an account of what will, doubtless, yield important results in pictorial photography.

LANDSCAPE PHOTOGRAPHY

On page 227 of this issue we reprint from "Landscape Photography," one of the most valuable monographs of "The Practical Photographer" Series, an instructive article by A. Horsley Hinton, one of England's greatest pictorialists. This book should be a much-consulted volume in the library of every photographer.

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MONSEN OF THE DESERT.

In the March number of the *Craftsman* is a most entertaining article on the Hopi and Navajo Indians, by Mr. Frederick Monsen, artist and lecturer. There is probably no living man who so well understands the simple and primitive people of the Arizona plains and cañons as Mr. Monsen. So fully is he in sympathy with these people, and so long and intimately has he been associated with them, that the *Craftsman* in introducing him to its readers has most happily given him the title, "Monsen of the Desert."

Mr. Monsen's Indian talks and Indian pictures are delightful, but it is in his experience as a portrayer of Indian life by means of the camera that the photographer is most interested. In telling of this he says:

"Naturally, in those days, all the pictures I took had to be posed and focused, as there was nothing to use but the tripod camera, the slow lens and the heavy glass plates. True, these were dry plates, so I was not hampered by the paraphernalia necessary to the use of wet plates, but as it was, the scope of my work was much limited, not only on account of the excessive weight of the instrument and plates, but also, and more particularly, because with this process it was impossible to avoid posing my subjects and making them keep still during a time exposure. When films were invented, I was, I believe, one of the first to use them in a professional way, and, although they were then by no means so reliable as they are now, they proved so indispensable to the kind of work I was doing, that I persisted in experimenting with them in spite of the fact that I failed repeatedly in my attempts to secure satisfactory results. In this way I gained my first actual experience and best practice in the instantaneous photographing of Indians, and when films were finally brought to such a degree of perfection that I could feel entirely secure in taking them out on long, difficult and expensive journeys, I began to get results such as I had never been able to achieve by the old method of using plates. A photographer who uses the large camera and plates the full size of the finished picture can seldom get either atmosphere, perspective or the freedom from consciousness that is so desirable when photographing Indians, that is, if one wishes for genuine individuality and convincing local color instead of more or less conventional or dramatic picturesqueness. The groups form themselves, melt away and change like cloud-shapes, and the best and most characteristic attitudes and groupings are absolutely impossible to obtain if one has to set up a tripod, adjust the camera, focus it, put in the plate, go over his group and pose each one until the general effect is just what he wants, and then take the picture. It may be an interesting and well-composed picture, but it is the photographer's idea that is expressed in it, not the artist's nor a phase of Indian life and character. By the use of the small cartridge films and the rapid action of the hand camera, one is able to snap-shot any number of charming, unconscious groups that show what the Indian is like in his daily life at home. * * * * * * *

"In addition to this convenience for working, which puts the hand camera almost on a level of a fountain pen carried for hasty notes, there are two other reasons why the small hand camera and cartridge films are so desirable for the Desert photographer. The first is purely practical, it reduces the weight of one's equipment for a reasonably long journey about ninety per cent., a matter worth considering when one travels in a rough and little known country. The second concerns the artistic quality of the large, finished picture. I have found that a direct print made from a large negative taken in the burning sunlight of Arizona or New Mexico is apt to be so sharp that it looks flat and hard, and seems to possess but little atmosphere or artistic feeling. By enlarging the picture from a small negative, I not only obtain a sense of perspective that gives some idea of the vast distances, but find myself able to produce a picture that, by its softness of outline and the effect of mellow, diffused light and deep, velvety shadows, conveys the feeling of all the sunshine and color that go to make up the characteristic atmosphere of the Desert."

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It isn't Kodak film—
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So you put your concentrated film and developer into your concentrated dark-room, and concentrate your mind on other things. The Kodak Tank Developer, will do the work better than you can for the necessary experience has been included in the concentration. In printing the picture, the same idea prevails—papers ready for use, solutions in concentrated form readily prepared—and in the home of the Kodak, hundreds of minds are concentrated on still further simplifying and perfecting picture making the Kodak way.

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This will in a measure account for the immediate popularity of Royal Velox.

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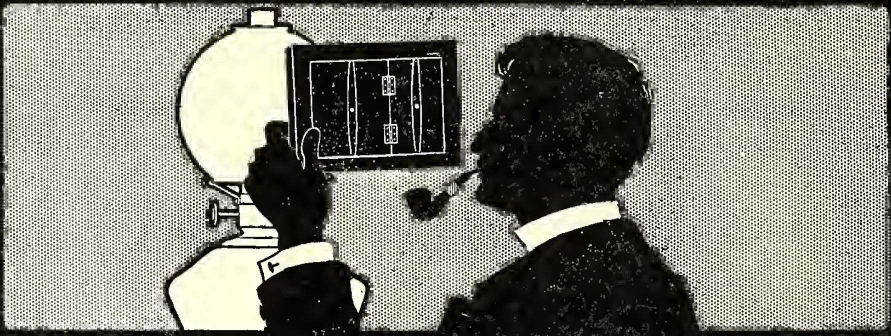

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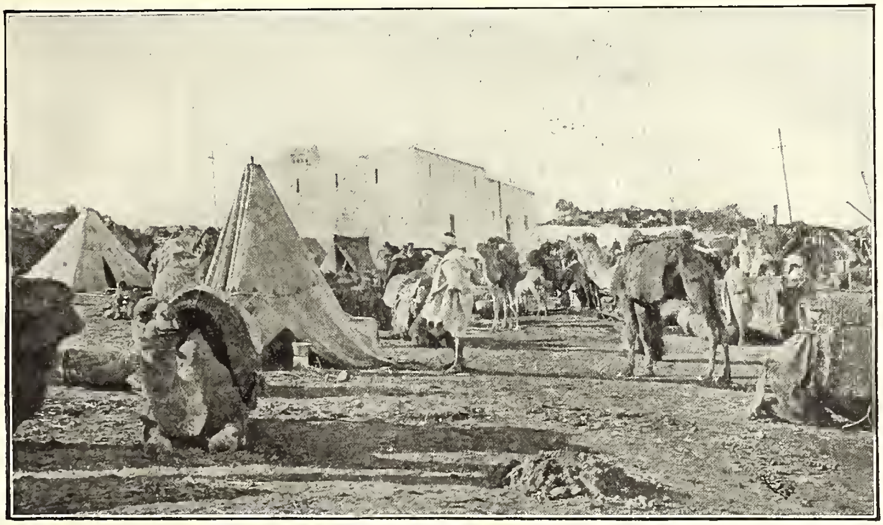

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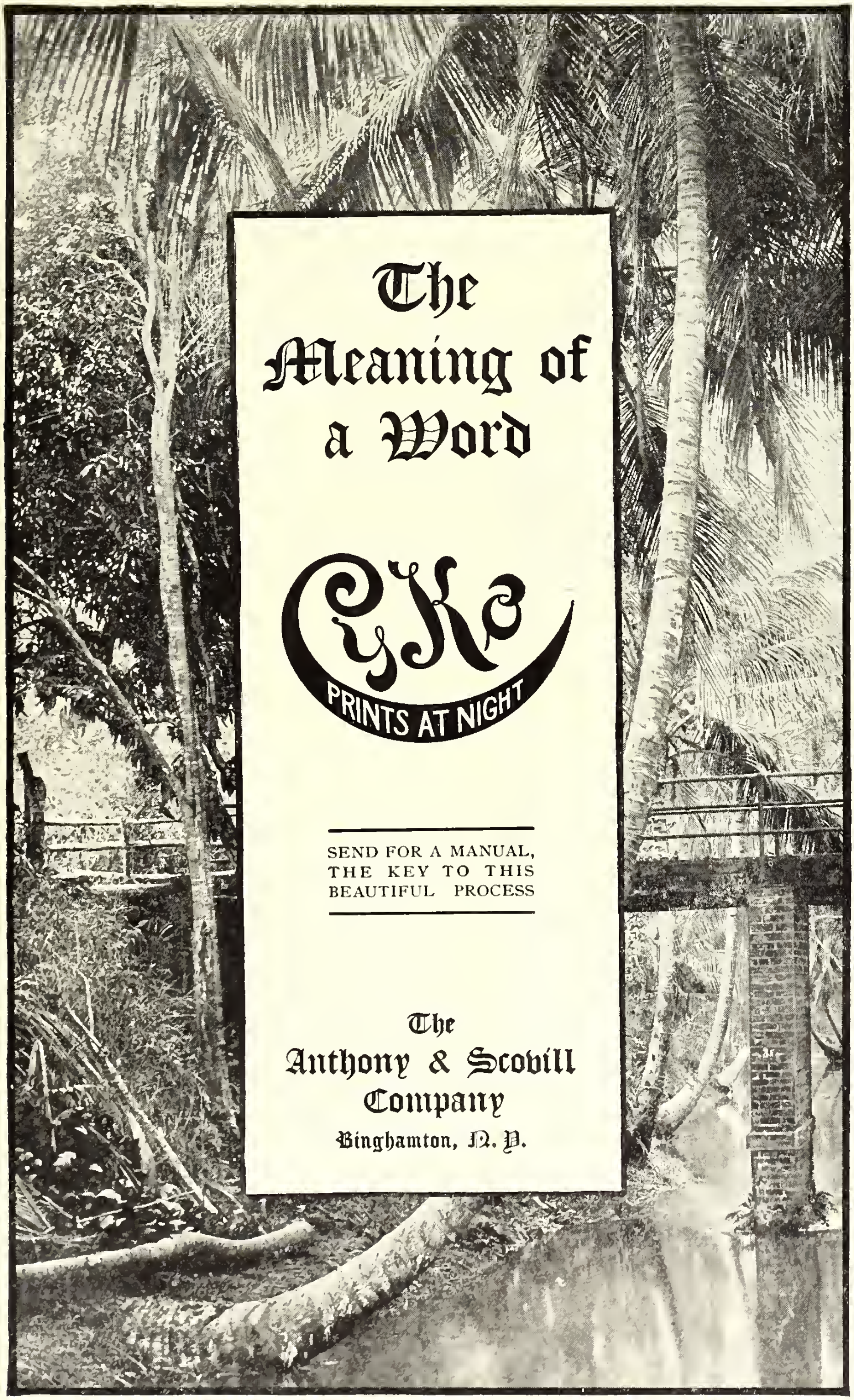

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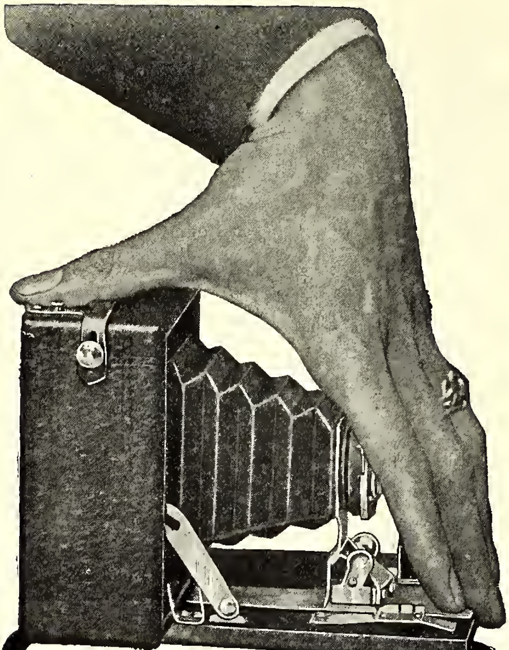

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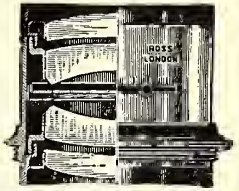

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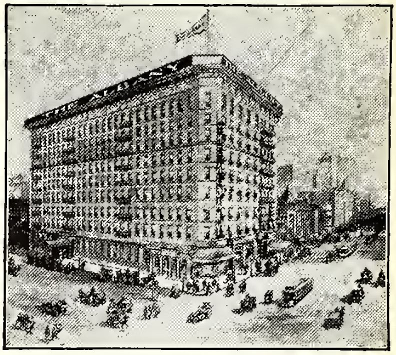

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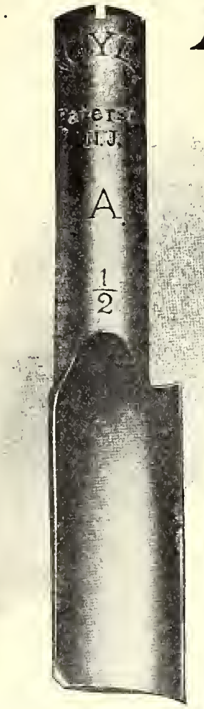

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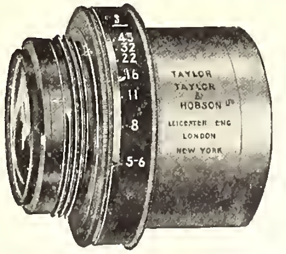

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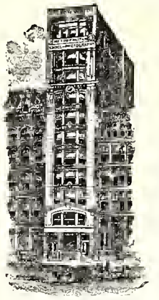

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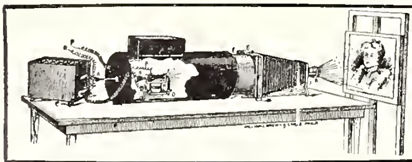

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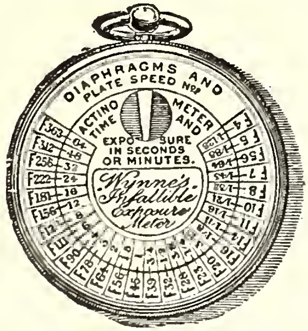
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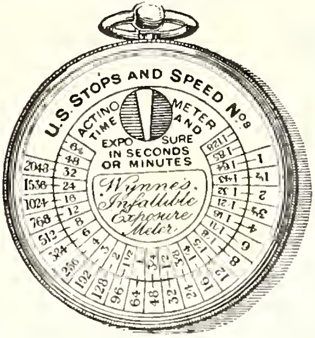
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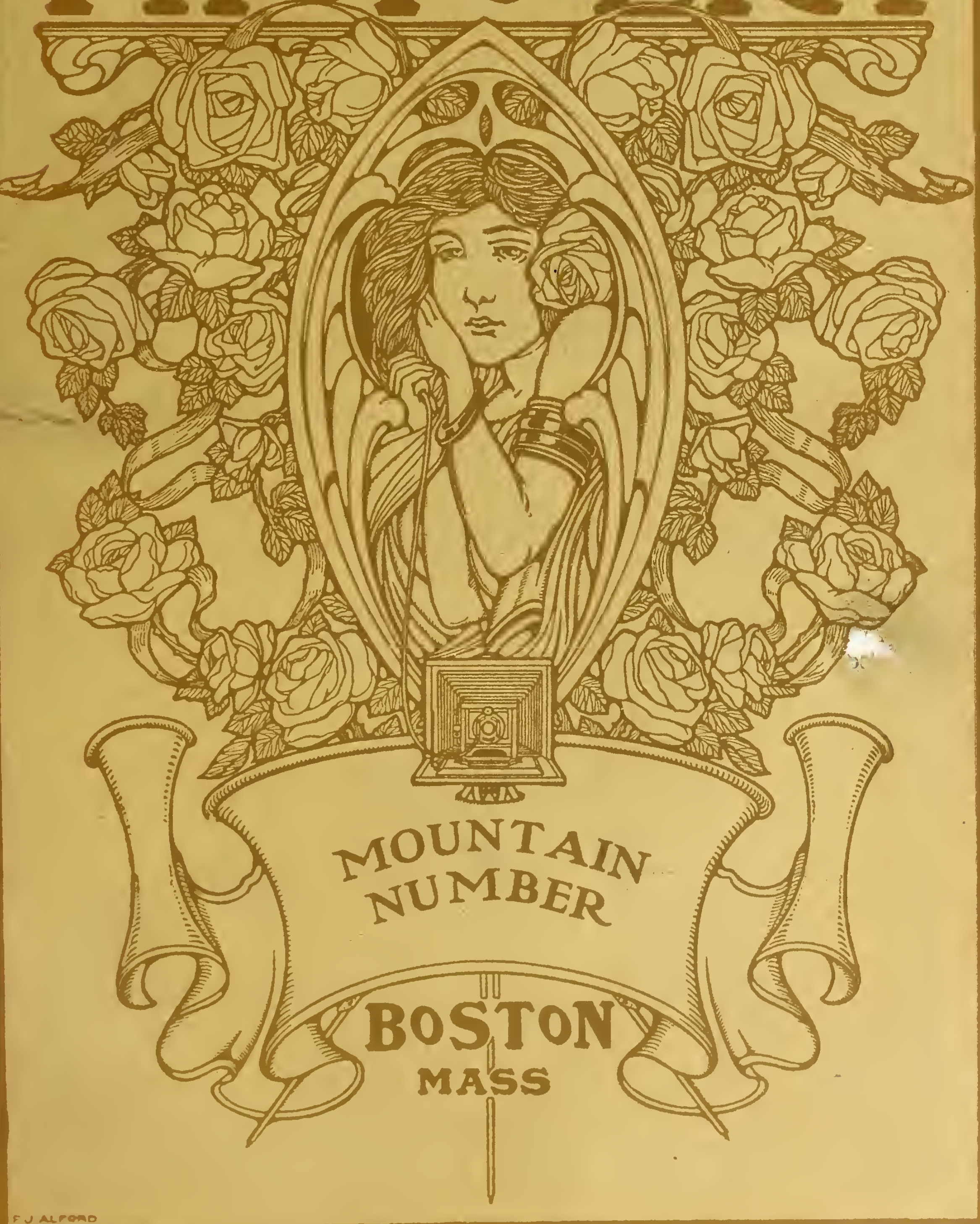

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